

Building: In-Car Satellite Radio Install Primer

HUB

**The
Computer
Paper**

March 2008

Volume 21 Number 03

Free



GPS On Your Laptop

What To Pack?

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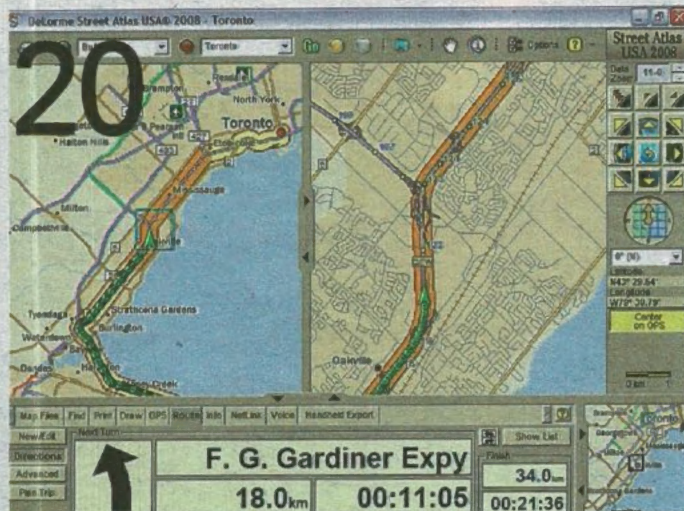
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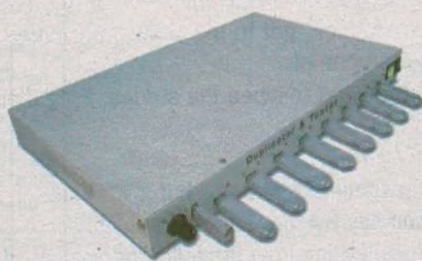
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In addition to Moore's Law; loosely, an approximate doubling of computing power every two years, there are other laws at work in modern computers. Specifically, Murphy's law and more specifically still, the law that if something can go wrong, it will.

This is the travel tech issue of HUB: The Computer Paper and in its pages, we discuss how much easier our travels have become since the advent of truly portable and truly powerful computers and gadgets. I've mentioned before how a PDA I still have in my possession (though admittedly with a battery that has long since died completely, taking with it all my stored data and programs) has more computing power than the first computer I bought in components and assembled myself less than 10 years ago. What I haven't mentioned previously is the woes said PDA once brought to me.

Several years ago I decided I'd try to join the business traveling elite, packing a week's worth of clothes, gadgets and sundry supplies into a case that would easily fit in the overhead compartment. I succeeded but not without making some sacrifices. In addition to wearing the same underwear for a full week (I kid; three days tops) I sacrificed my trusty Acer Travelmate 340T laptop and off-board CD-ROM / floppy disk reader. Instead, I figured I could do all that needed to be done with my wireless-ready PDA. It already had all my calendar appointments for the week. My email was set up and ready to go. It held all the contact details for people I was supposed to meet during the show.

The WiFi connection, in addition to Bluetooth, was something of a rarity in a PDA back then. With a snap-on QWERTY thumbboard, I reasoned I'd be well equipped to file at least a few hundred words per day from the comfort of my hotel (ok, motel) room. I did however have to pack the charger and since I'd long since lost the travel charger—a little device no bigger than your standard phone charger—I was forced to pack the whole dock. I figured it a small price to pay for the geek cred I'd earn from being so vanguard in my tech thinking.

I was very pleased with myself as the plane touched down and I extended the handle of my carry-on suitcase, skirted the baggage claim line and joined the half-hour wait for a taxi in to downtown Los Angeles, miles ahead of all those suckers with the multiple suitcases and plenty of clean underwear.

I was a couple of days early for the show in question—the Electronic Entertainment Expo (E3) back in the days when consumers were still allowed in and it was absolute pandemonium—because there were dozens of press-only events scheduled for the lead-up to the official opening... and more than a few parties to hit up.

That night, after attending a few of the aforementioned press conferences and subsequent parties, I made it back to my room, not too much the worse for wear, to pull together the notes of the day in to some sort of cohesive pre-E3 Web site update. With many navigation woes, trying to get quotes I'd recorded earlier in the day into my story, I managed to pull something together and tried to log on to the hotel (OK, motel) wireless. To no avail. I scanned for access points again and came up with naught but the protected network of a bail bonds office nearby. Calling down to the front desk to try to get a handle on why I couldn't get on the wireless network

didn't get me very far. I didn't feel much like braving downtown LA... especially not the neighbourhood I was staying in, and I figured I'd just file the story tomorrow. LA is three hours ahead of the Toronto office so even if I couldn't file before noon, it wouldn't be too big a problem and would be up on the Web site before the office day really got started back home.

Come the morning—admittedly the late morning as I had a bit of a hard time separating head from pillow that day—my connection problems were still unresolved. I tried every possible combination or wireless options to connect to the now visible hotel (ok, motel) network but to no avail. Finally, I admitted to myself that I was going to have to get up, get dressed and head out to find a wireless hotspot. With Starbucks fully wired and even McDonald's following suit, I figured it wouldn't be too difficult. I thought wrong.

Los Angeles is a very spread out place. Flying over on the way in to LAX, that much was clear. I walked for at least 10 blocks, the headache earned from the party the night before letting me know I really should just call it quits. I walked over freeways, through little Mexico, in to China Town, I even found Little Japan. What I didn't find, however, was an accessible hotspot. For most of my walk, I had MiniStumbler (www.netstumbler.com) running on the PDA. It turned up several private business and home networks but not once did I find an accessible hotspot. By the time the battery died on the PDA, sealing my story's fate, I was drenched in sweat, lost and late for an afternoon press conference. I figured that the next day, the first official day of the show, I'd use the much hyped WiFi connection in the Los Angeles Convention Center to file both yesterday's and today's stories back home.

All my tech woes of the past days seemed to fade as I managed to get a connection and email started to come in on the PDA. As quickly as it came though, the connection was lost. For the duration of the show, I couldn't get connected for more than a minute at a time. And the battery died again. Fortunately, I had the foresight to print all my appointments for the day before leaving Toronto.

In the end, I did things the old fashioned way; I wrote the day's news in longhand in a notebook, got to the show early every morning to grab a spot on one of the press room computers and re-typed the stories, filing them directly to the Web site.

Perhaps not the most elegant of solutions, but it worked... which is more than I can say for the rest of my plans.

If I had it to do over again (which I did the following years), I'd be more diligent in choosing a hotel (or motel) with a usable wireless connection and I'd pack the solutions I knew were going to work, not necessarily the ones that took up the least space in my luggage.

I'd also take more underwear.

Enjoy the issue,
Andrew Moore-Crispin



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Photo Spree Winners

Editor-at-Large and certified photo buff David Tanaka judged the shortlisted candidates. His comments follow the pictures.



Winter Sunset
By Harold Martens of Langley, BC
Camera used: Olympus E-500

The colour balance, depth of field, exposure work very well in this image. Even in the low-res submission, the details of the fine branches are well rendered. Very evocative. For those of us that live in a northern climate, we know what being in this scene feels like. The sky is beautifully captured.



Dog Playing Catch on Mountain
By Andrew Chin of Port Moody, BC
Camera Used: Canon 40D

The composition is very effective. The distant forest merges quietly with the sky to give a strong sense of distance and perspective and the blurring of the distant forest contributes to that. The placement of the figures works very well. They are very tiny, but because they are the darkest part of the image your eye goes immediately to them, and putting them low in the frame accentuates the expanse captured in the vertical axis

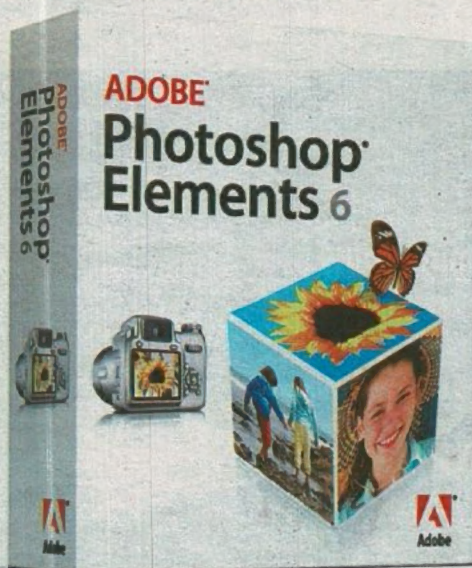


Snow fall Cap St.Jacques
By Maryse Tremblay of
Dollard-des-Ormeaux, QC
Camera used: Nikon D80

Well exposed and overall a very effective vantage point. The dark foreground tree is nicely balanced by the background which is soft and misty. The branch edges on the left side of the foreground tree form almost a vertical line, and cropping the image there would eliminate the thin bar of light tone and the black stick poking out of the snow which both pull the eye out of the main subject area.

The challenge: Spring is in the air

Show us your shutterbug chops by submitting your best seasonal snaps whether taken on holiday or at home, in the house or outdoors, in the across the globe or in your own back yard... Get creative and let us see the results!



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Winners will receive a copy of Adobe Photoshop Elements 6 for Mac OSX or Windows. This powerful image editing and management software suite is built on the powerful foundation of Adobe's Photoshop but with a more user-friendly interface. It's powerful but accessible and it's a true budding digital darkroom aficionado's dream. Recently released for Mac users, Photoshop Elements 6 is a budding digital darkroom dream.

THE RULES: You must use a digital camera to capture the subject. Work can be submitted via email (contest@ppublishing.ca). Accompanying your photo should be the make and model of the camera you used, the names of any software you used to modify the image and, if possible, the f/stop and shutter speed you used to take the photo.

Submit your photographs, along with the information from the form below, by May 5, 2008. You can submit up to three photographs, all of which must be accompanied by a submission form. Entries must be submitted via email. Files should be no bigger than 1MB and no smaller than 300KB. One photo per email.

Prizes must be claimed by June 9, 2008. Winners must provide valid identification upon claiming prize. The prizes awarded are not transferable and cannot be redeemed for cash. To enter and to be eligible to win, persons must be residents of Canada, and not employees or be domiciled with an employee of Piccolo Publishing, its affiliate companies, or advertising or promotional agencies. The winners will be selected by HUB on May 12, 2008 from among all eligible entries received on or before contest close date. Winners will be contacted by telephone or email. In the event that they cannot be contacted within the first week following the contest, another entrant will be selected. All entries become the property of HUB and may be used in subsequent advertisements for the contest. All entries must be submitted by their artist and must be original work.

HUB's Photo Spree contest form. All submissions must contain this information. Send to contest@ppublishing.ca.

Deadline: May 5, 2008

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Occupation/School:

Title of Entry:

Camera Used:

Software Used:

Photo Geotagging

Photo safaris with a digital twist

The mix and match of digital convergence is constantly creating hybrid products that change what we can do. A scientific/military tool—the global positioning system device—has spawned consumer spins ranging from vehicle navigation systems to a modernization of the good old scavenger hunt, aka geocaching. Tie a GPS unit to a digital camera and you have yet another variation—photo geotagging.



Sony GPS-CS1

The basic process

In its most basic form, photo geotagging involves identifying where you took a picture with GPS co-ordinates—longitude, latitude, etc. The process is possible because both the camera and the GPS unit contain a clock. Synchronize the clocks on the two devices and you have a way of creating time-matched data. The data from the camera are simply the images you take. The key GPS datastream is found in the track log (not all GPS units create a track log; for photo geotagging, you'll need one that does, and usually following a standard such as the NMEA 0183 data protocol). The third component is a software utility that uses synchronized clock data from the two devices to match the data streams. Simply put, if you took a photo at 2:14 pm, the software will find the location co-ordinates logged by the GPS unit at 2:14 pm, and then tag that photo with the location information by writing the appropriate GPS data into the EXIF header of the digital image file.

The basics of geo-tagging might not seem too exciting unless you are a database freak, but there is a fourth component that puts photo geotagging on a world stage. Match those GPS-tagged photos to

something like a Google Map and suddenly you have a way to show people what the ground space actually looks like at any given map point. And that is the essence of photo geotagging. Many photo-geotagged pages can be found on popular photo sites.

GPS photo-tagging products

GPS photo-tagging early adopters used whatever GPS hardware was at hand and often wrote software utilities to match the camera and GPS data. If you do an Internet search of "photo geotagging software" you will find several freeware, shareware or trialware products for Windows and Mac. These have often been developed with specific handheld GPS units in mind, such as a Garmin, but as long as the GPS unit you want to use produces a tracklog that conforms to the data requirements of the software it should work.

In the last couple of years, several manufacturers have addressed this potential market with packages that include custom GPS units plus software aimed specifically at photographers. One of the first was Sony, which introduced the GPS-CS1 in 2006. It is a lot smaller than the typical handheld GPS device and includes a carabiner so that it can be clipped to a



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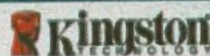
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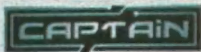
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How exact is the pin point? The satellite-based GPS system was developed by the US military and for security reasons, a certain amount of signal drift is built into the system—so that bad guys can't use the system to target a location with 100 per cent accuracy, for example. Consumer GPS is generally accurate to within a few metres.

camera strap or bag. Dimensions are roughly 87mm x 36mm x 36mm and it weighs 55g without the single AA cell needed to power it. The unit will work for 10-14 hours per charge depending on the kind of battery used, and includes 31 MB of internal memory, which Sony says is good for approximately 360 hours of data. The log interval is set at 15 seconds, so unless you are taking pics from a low-flying jet, the GPS data should accurately track your photographic meandering. Sony also includes a software package called GPS Image Tracker, which synchronizes images with GPS co-ordinates.

Other companies have followed Gisteq (www.gisteq.com) has two models called the PhotoTrackr and PhotoTrackr Lite. The original PhotoTrackr GPS unit, called the CD110 (or CD111BT for a Bluetooth model) is a relatively tidy unit measuring 77mm x 46mm x 22mm and weighing 68g including battery. It is powered by a rechargeable Lithium Ion battery that is good for 2,000 hours standby time or 25 hours continuous use, according to the company. The data logging interval can be adjusted either by time (from once per two seconds to once per 30 minutes) or distance (once every metre to once every 65,535 metres). Four MB of onboard memory will store up to 250,000 records—Gisteq says that translates into enough capacity to record data for around 40 days. Gisteq more recently introduced the PhotoTrackr Lite DPL700, which is the same size as the original model but styled somewhat like the Sony CS1 unit in that both come with a carabiner that allows you to clip the unit to a camera strap or bag. The Lite version is powered by a single AA battery and has 4MB of onboard memory good for 250,000 records.

Gisteq has two versions of its (Windows only) PhotoTrackr software, Standard and Pro. As well as the central function that synchronizes images and GPS data, the software also has a utility to set up the GPS unit's features, manage the photos, upload to popular photo sharing sites, and prepare images for photo geotagging sites by embedding the GPS information in the correct format. The Pro version of the software is capable of handling RAW image files, and writes GPS data to an XMP sidecar file.

Photo accessory supplier Jobo (www.jobo.com) announced a photo geotagging product a year ago, but the Jobo photoGPS is not yet available. A spokesman said it is scheduled to ship in the first half of 2008. Jobo has taken an interesting direction with the hardware. Rather than collecting GPS track points based on time intervals, the GPS unit fits on a camera's flash hot shoe, and each time a picture is taken the GPS unit is triggered to collect a data point. Thus the data stream is much smaller and matching photos to GPS data more efficient. However, no other technical details are available. The Jobo unit will ship with software that matches images with GPS data, and Jobo states the software will also work with RAW image files by writing the data to XML sidecar files (whether this will be compatible with or actually use Adobe XMP sidecar files is not stated by the company).

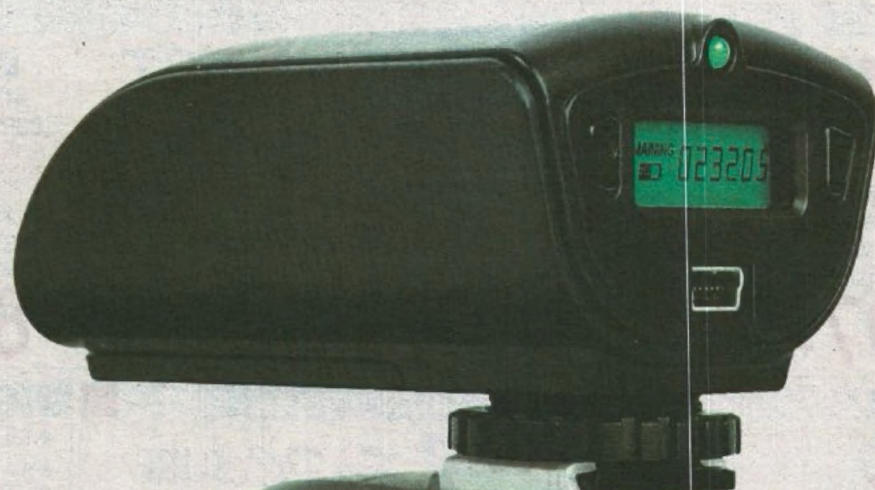
Perhaps the most elegant solution so far comes from camera maker Nikon (and Fujifilm on one camera model). A select number of its higher-end SLRs (D2x line, D3, D200 and D300 along with the Fujifilm S5Pro which is based on a D200 body) support GPS right out of the box. A special MC-35 serial port on the camera allows it to be connected to a handheld GPS unit, and GPS data is written directly to each image file's EXIF data header by the camera—no post processing required. A Hong Kong company called Dawn Technology (www.dawntech.hk) has developed the N2 diGPS Mini specifically for these GPS ready cameras. The unit is small (50mm x 32mm x 13mm and 30g) and can either be slipped onto the camera hot shoe or clipped to the camera strap. The unit includes a short cable that plugs directly into the camera's serial port and also draws power from the camera (the company says power consumption is very low). Dawn Tech also includes geocoding software called diGPS2map, which allows you to put hot pins on a map such as Google Maps. Visitors then click on the hot map pins to see a photo of that location.

Virtual map pins

The features in the Dawn Tech software are by no means unique, but it does illustrate one of the popular final destinations for geotagged photos. A number of photo geotagging sites have cropped up, as well as sections within existing photo sharing sites. Panoramio (www.panoramio.com) is a site that is now owned by Google, and uses Google Maps as the palette over which you can lay thumbnails of your geotagged photos. Picassa, now also owned by Google, has a geotagged component. Popular photo sharing site Flickr's geotagging section can be found at flickr.com/maps, with geotagged photo streams indicated by pink dots.

GPS tagged photos allow you to create virtual photo safaris that track where you went and what you saw, and also enjoy the safaris created by other travelers. There still needs to be a bit more prep work involved in geotagging your photos, but it may be worth the effort if you want to give your online galleries an extra dimension.

By David Tanaka



Jobo PhotoGPS

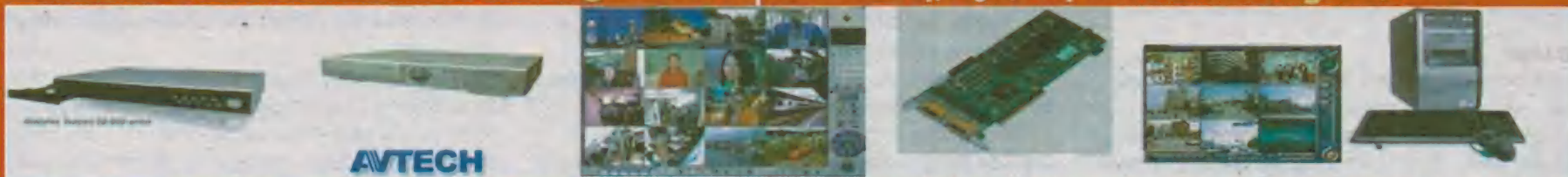
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Essential Home Office Furniture

Form, function and fun

What home office wouldn't look or function better with a furniture transplant? And certainly there's a wide selection in the big box stores that'll handle anyone's basic needs. But for those who don't always want to follow the crowd, there's no limit to what you can do. Or how green you can be. Or what you can spend.

The chair

Good-looking office chairs aren't necessarily the best chairs, particularly at the sub-\$100 entry-level price point. Products in this range probably won't support the lower back, likely won't stand the test of time and will undoubtedly squeak at some point. However, the choices become quite a bit more likeable and durable at the \$200-plus mark.

Choose the type of chair for your specific needs and habits—for example, you'll be much better off with a "task" chair than a high-backed executive model if you're working the computer all day. Try to grab as much seat time as possible before you buy, check the lumbar support, explore the height and seat angle adjustments, and decide whether armrests are something you really need while you work. And don't forget, upholstery gradually wears out.

Opt for a chair with a durable, guaranteed cushion, or take a look at those without upholstery—some are very comfortable indeed.

Don't limit your search to office-centric stores such as Office Depot—Ikea is home to one of the best-reviewed midlevel task chairs on the market. It's called the Joakim, and it features such the unusual perk of a sliding seat. (\$299, www.ikea.com)

But if you want the best, today's top-ranked chairs are ready to accommodate. From Steelcase (www.steelcase.com) hails the Leap, a marvelous creation that consistently scores the highest grades for its breathable fabric, supportive ergonomics, and extreme adjustability. Also from Steelcase comes the Think, a slim-designed chair notable for its seating position adaptability and feel-good 99% recyclability.

Humanscale's (www.humanscale.com) super-comfy Freedom and simplistically elegant Liberty look outwardly to have fewer adjustments than other models, but in reality adapt to the user semi-automatically. The Liberty isn't as plush as the Freedom, but its mesh seatback is streamlined, breathable, and much more comfortable than it looks. And certainly no discussion of high-end office chairs

would be complete without the granddaddy of the bunch, Herman Miller's celebrated Aeron (www.hermanmiller.com). It's esthetically intriguing and durably built, and it features a comfy mesh seat and backrest that fits you like a hammock. All of the above will impact you to the tune of \$800-plus, but they'll likely keep your back and joints happy for many, many years.

Obsessive gamers, meanwhile, may want to look into Ultimate Game Chair's Renegade Game Chair. It jolts you physically while you play, and massages you when you're not (via a dozen strategically-placed motors). It produces sound through a pair of head-level speakers, and features conveniences such as a cup holder, an MP3 input, and sound-triggered underside lighting. Sadly, it sits too low for a regular PC desk. (US\$299, www.ultimategamechair.com)

A better bet for anyone who seeks an all-in-one seating solution for both their working and their PC gaming hours is the PC Gaming Chair 2.1. It may look like a standard task chair, but it's wired for sound, baby, with two built-in, full-range speakers in the headrest, a subwoofer underneath, and a digital control pod in the armrest. Best of all, it's cordless. (\$269.99, available at www.costco.ca as the Jimmy PC Gaming Chair 2.1)

The desk

The work desks of old (two columns of drawers on either side with a space in the middle) aren't the ideal solution for most computer-centric home offices. They don't offer enough room for stretching and moving your legs, they force you to store your PC box off to the side somewhere, and many are simply too small or the wrong height for constant keyboarding. L-shaped table configurations are a better idea for corner setups, and multilevel workstations will work for just about anyone.

But which to choose? When it comes to a desk/workstation, online browsing makes a great deal of sense—particularly through the big box Web sites, where the selection is solid and the photos are usually large and clear. Head to Staples (www.staples.ca), Office Depot (www.officedepot.ca), Ikea, and TigerDirect (www.tigerdirect.ca), and you'll get some great ideas as to what's out there. Remember though, an old chest of drawers, table, or credenza will do in a pinch.

If you're way past the pinch stage, and especially if you play games, don't do anything until you've checked out do-all units such as the Roccaforte Gaming Desk. In reality a mammoth, all-enveloping business/entertainment cockpit, the Roccaforte features multiple elevated levels that allow you to "stack" any number of monitors and peripherals on the vertical as well as the horizontal plane. (\$499.99, available at www.costco.ca).

Other, increasingly outlandish workstations, such as the racecar-meets-electronic-drum-kit Vision One Computer Workstation (\$1,100 and up, www.thev1chair.com) are certainly available, but we simply don't see the logic in dropping that sort of coin on such specialized, potentially impractical items when



FitWork Walkstation



virtually all the typical outlets carry such a wide-ranging selection at substantially better prices.

Having said that, we do admit a certain intrigue for another Steelcase product, the just-released FitWork Walkstation. Part treadmill (yes, you read that correctly) and part desk, the Walkstation brings the benefits of aerobic exercise to your business environment. It's hard to see how bouncing on a treadmill will improve your reading or typing, and we can't help but think of the heavy-breather accusations when you answer the phone, but it looks extremely stylish and it's certainly a great conversation piece. As it should be at its price point. (\$4,500).

Achieving harmony

To paraphrase The Eagles, there's a peaceful, easy feeling when your surroundings aren't devilishly messy. You could start by throwing out that week-old popcorn,

but you also may want to consider the strides you'll make by unifying your environment. Modular furniture is a great way to do just that. The primary advantage to going "mod" is that your room feels harmonious no matter how you arrange and re-arrange each individual piece.

Markham, Ontario's Can-Am (www.can-am.ca/home-office-furniture.htm) builds modular furniture, primarily for the home office. Its flagship collection sports simple lines and homogenous styling, and is very versatile (for example, a storage unit that doubles as a desk, a worktable, a filing cabinet, and an entertainment center). What's more, most of Can-Am's offerings will close up tight when you're done to protect your valuable belongings and make your office look, dare we say, coolly calm. If you need more storage in the future, simply add more modules.

For that classic look, you could do a lot worse than

the Modular Work Station lineup from Virginia's Hooker Furniture. Crafted in the USA and available in high-end furniture shops throughout Canada, Hooker's modular home office products are beautifully detailed and exceptionally constructed. Yet they're also fitted with all the cord and cable management facilities you'll likely ever need. Check out www.hookerfurniture.com for more information.

It is easy being green

It's easy to see how a car or a lawnmower or even a methane-spewing bovine pollutes and/or fouls the environment. But office furniture?

It's true. Many of the components and materials used in that comfy little office chair you're eyeing up could incorporate highly evaporative substances called VOCs (Volatile Organic Compounds). According to university and government studies, VOCs significantly contribute to photochemical smog production. Moreover, some office furniture manufacturers utilize environmentally-unfriendly production processes that unnecessarily deplete worldwide forests, emit toxins, and don't take full advantage of recycling opportunities.

What can you do about it? One option is to buy used stuff. Though most pre-owned tables and chairs are probably too old to have been manufactured under eco-friendly guidelines, truth is they'd look a whole lot better in your home office than a landfill. And who knows you may even find something much more recent. We uncovered a number of the products mentioned in this article during a quick scan of (vancouver.craigslist.org, montreal.craigslist.org etc.) and Buy & Sell (www.buysell.com).

Or, if used is just too... well, used, consider refurbished furniture. Most refurb's are reserved for large corporate and workgroup pieces, but independent furniture repair shops are good places to look for re-energized home office chairs and desks. Mississauga's Refurb Canada (www.refurb.ca) is one such example.

Another option is to buy your new furniture from a green manufacturer. Canada is fortunate to have several, such as Toronto-based Teknion (www.teknion.com, showrooms in most major Canadian cities), Ottawa-based Advanced Business Interiors (www.makespacework.com) and the Canadian wing of Herman Miller (www.hermanmiller.com/canada). Even industry giants such as The Global Group are getting in the act with a variety of environmental initiatives (www.globaltotaloffice.com). Spearheading the eco-friendly revolution in the USA are manufacturers like the above-mentioned Steelcase and the super-green Baltix Sustainable Furniture (www.baltix.com), which uses material such as wheat straw, sunflower hulls, recycled paper, and recycled milk jugs in its products.

Other general eco guidelines: Avoid tropical woods; opt instead for sustainable domestic woods such as pine and oak. Avoid chair cushions made from hydrochlorofluorocarbon-filled polyurethane. And remember, donate or recycle your old furniture rather than tossing it in the garbage.

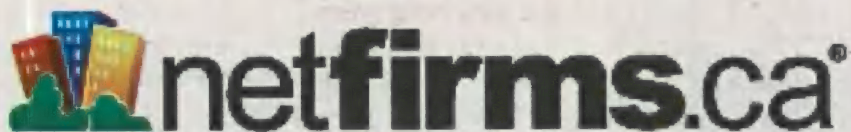
By Gord Goble



Roccaforte Gaming Desk

Distinctly Canadian

Dot-ca domains fly the maple leaf online



Dot-ca domains will hit 1 million later this month. This according to a forecast from the Canadian Internet Registration Authority (CIRA, www.cira.ca), the organization that manages the registration of web sites bearing Canada's Internet country code top-level domain.

Nearly 250,000 new dot-ca sites have been registered over the last two years, said David Hicks, CIRA's

director of marketing and communications. Toronto-based Netfirms (www.netfirms.ca), a full service web hosting company and CIRA-certified registrar, accounted for nearly 50,000 dot-ca domain registrations in 2007. It is one of Canada's leading dot-ca dealers. The company credits much of the growing popularity in dot-ca domains to a drop in registration prices. In addition to the price parity between dot-com and dot-ca domain registration prices, Hicks believes that many Canadian companies are obtaining red-and-white domains to obtain the trust of local consumers.

"Until a few years ago, dot-ca domain names were typically more expensive than dot-com," says Netfirms product manager, Jason Matheson. "We started offering CIRA-certified dot-ca domains for as low as \$9.95 per year—comparable to the industry standard price for a dot-com."

"You have to be a legal Canadian entity—a citizen or Canadian corporation—in order to acquire a dot-ca domain," the CIRA's Hicks explains, adding that many Canadians prefer shopping on dot-ca web sites because they don't have to worry about international shipping fees and that the products they find are geared toward Canadian consumers.

"If you go to Toyota.ca, for example, you'll find different car packages than you would at Toyota.com; packages that include winter tires and other features that appeal specifically to Canadians."

Matheson says another reason why dot-ca domains are being snapped up ever more quickly is that they simply make good sense for Canadian companies. Small businesses are discovering the importance of dot-ca names in targeting Canadian consumers. "A dot-ca domain name, paired with a Canadian focused Web site, helps establish a trusted local brand," says Matheson.

Mark Bowden, who registered a dot-ca domain through Netfirms to supplement the existing dot-com Web site for his communication training business, Truthplane, credits his new and distinctly Canadian URL for a recent spike in traffic. But, more important than the number of home page hits, he says his dot-ca site has increased the quality of traffic visiting his site.

"I am British and work internationally," explains Bowden. "For me, a dot-ca address helps project a sense of my work belonging in Canada and having important Canadian values such as integrity and trustworthiness. It is important for Canadian businesses to understand I have a strong home base here in Toronto, and that I'm very involved in serving Canadian business leaders and teams. The dot-ca address has reassured them that I understand the communication culture here as separate from the USA and Europe and that I respect and serve that difference."

Gregg McLachlan, founder and president of WorkCabin.ca, a job site that lists green employment opportunities in Canada, believes that his dot-ca domain is essential to his business.

"Showing our Canadian identity is extremely important," says McLachlan. "That's why we were glad to find our dot-ca domain name was available. It has definitely helped us successfully grow our services on the web and immediately connect us with Canadians."

While registering a dot-ca domain can be an important step for Canadian small businesses looking to differentiate themselves from international competition, private citizens are beginning to register their own dot-ca Web sites as well. Indeed, Netfirms' Matheson said many of his company's dot-ca registrants are individuals interested in establishing and shaping their Canadian identities online.

Netfirm's non-business clients seem to reflect results found in an Ipsos Reid poll conducted last fall on behalf of MSN Canada, which stated that 17 per cent of Canadians are using the Internet to promote themselves using a carefully constructed message and strategy by creating pages dedicated to revealing select bits of information about themselves online.

Strategies for self-promotion on the Internet ought to include personal web pages, said Andy Beal, co-author of *Radically Transparent*, a book about managing personal and professional identities online. He agrees that creating your own web site is "key to managing and taking control of your online identity," and that they're necessary to

ensure that, when people go searching for your name, they see what you want them to see. A dot-ca domain also helps distinguish Canadians from other people in the world who might share the same name.

Regardless of whether you intend to register a dot-ca domain with your name or the name of your company, it pays to act quickly. CIRA's Hicks said that the rate at which new dot-ca names are being registered is increasing by more than 20 per cent per year. He expects that, by 2010, the number of dot-ca names registered will increase by half, totalling more than 1.5 million.

However, while dot-ca names are going fast, you still have a much better chance of finding available dot-ca domains than dot-com domains. The VeriSign Domain Report, an annual paper that tracks and details domain registration activity across the globe, stated in December that there were nearly 70 million registered dot-com domains.

Put another way, you are about 70 times more likely to find the domain you're looking for available as a dot-ca than as a dot-com. Still, with new dot-ca domains being registered at a rate of one every four minutes, your ideal domain could become unavailable at any moment.

By Walter Norman



News Briefs

Sony Ericsson launches Xperia smartphone X1 features slide-out keyboard, Windows Mobile OS

Sony Ericsson says its new Xperia brand is designed to "meet the growing consumer demands for mobile web communication and multimedia entertainment." The X1 is the first model in the new line. Among its highlight features are a three-inch wide VGA display (800 x 480 pixel resolution), which can be slid upward to expose a full QWERTY keyboard. Sony Ericsson calls the keyboard mechanism an arc slider. The unit is powered by the latest version of the Windows Mobile operating system, so users can expect the usual MS mini-applications such as a web



Dietitians of Canada's Recipe Analyzer tool A new weapon in the battle of the bulge

Dietitians of Canada recently launched its latest bid to help Canadians eat more healthfully and make informed food decisions. The online Recipe Analyzer went live on the Dietitians of Canada website (www.dietitians.ca/eatwell) in February and can be found by clicking on the left-hand navigation bar "Recipe Analyzer" link.

With the online tool, users can enter a list of ingredients for any recipe and the Recipe Analyzer will return a full nutrient profile for the recipe, the number of servings of the various food groups and outlined in the Canada Food Guide, along with tips on how to change the recipe to make it more nutritious. The tool can be used to create an online recipe book with complete nutritional information to aid Canadians in building a healthy eating menu plan. Two different recipes can be put head-to-head so users can see how they compare nutritionally.

browser, mail, media player, etc. Characteristic of Sony Ericsson products, the X1 also includes a 3.2 megapixel camera that can be used for still photography as well as video recording. A GPS radio is also built in, as is WiFi. The phone even has an FM radio, and stereo Bluetooth. A MicroSD card slot answers data storage needs.

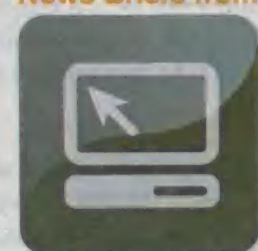
The X1 might not look like the typical Mobile Windows device because uses a different home screen consisting of nine panels that the user can customize. Navigation is accomplished by touch screen, a four-way key or even an optical joystick as well as via the keyboard.

The Xperia X1 will work on GSM high speed networks as well as the so-called 3.5G HSDPA networks. Expect to see the product around the middle of this year.

www.sonyericsson.com/x1



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In the Lab: Ultraportable laptops

Powerful portables that don't require power lifting

It's the ever present question: Should I pack my laptop? Myriad factors come in to play. How likely am I to really need it? How long will I be away from my desk? Is there accessible WiFi where I'm going? These questions are balanced against important factors like how big and heavy the laptop is—you're much less likely to pack up your desktop replacement for a quick jaunt to a wireless hotspot park, patio or coffee shop than you are a smaller and more easily lugged lappy. Battery life is also a major concern when it comes to portable computing. There's not much point sacking out to sort through your email while sipping a grande skinny mocachaicococachino if your battery is going to die before you're half way through your scalding hot and awkwardly named beverage.

Ultra portables defined

To be considered in the class of ultra portable, a laptop must be larger than a subnotebook, de facto defined as 1kg or less in weight with at the absolute most, a 10.4-inch display and a chassis and keyboard size to go along with it, but smaller than a traditional notebook, defined as 2kg or greater and with at least a 12-inch screen. At less than 1.8 kg (four pounds) as configured, these laptops all fit the bill.

Portable vs. powerhouse

Going ultra portable brings both benefits and detriments. Under the former come predominantly light weight and long battery life. Under the latter heading come the higher price and lower raw power, smaller screens and often, smaller keyboards than their full-sized counterparts. Whether the trade offs are worth it depend on your intended use and budget. There's something to be said for a computer that slips easily in to your briefcase, backpack or carry-on luggage and doesn't add too much to your overall load. Likewise, the longer battery life and extreme portability mean you can open up shop pretty much anywhere you can get a WiFi signal; in the departures lounge, in the park or at your local coffee shop.

Ultraportable vs. subnotebook

Subnotebook and ultramobile computers are a subset of ultraportables; these machines focus almost entirely on keeping to size down and make sacrifices in screen real estate and keyboards, sometimes using QWERTY thumbboards instead of a more usable touch typing QWERTY board. Ultraportables tread the fine line offering solutions that are not as small and therefore portable as a subnote or ultramobile PC but not as large and therefore powerful as regular format laptops. While sacrifices are made in keeping the size down (but not too far) and the power up (but not too far), ultraportables strike a good balance between power and portability, creating a light weight but not necessarily light duty PC.

Panasonic Toughbook CF-W7

\$2,299 www.panasonic.ca

Windows Experience Index: 2.2 **Processor:** Intel Core 2 Duo Processor 1.06GHz

RAM: 1 GB SDRAM (2 GB max) **Weight:** 1.4kg

Dimensions: 270mm x 215mm x 54mm **Battery life (manufacturer supplied):** 7hr.

Cache: 2 MB L2 cache **FSB:** 533 MHz **Hard drive:** 80GB

Screen size: 12.1-inch 1024 x 768 (XGA) anti glare

Optical drive: DVD Super Multi Drive with Dual Layer Support

USB ports: 3 **FireWire:** No **Media slot:** SD

Panasonic's Toughbook CF-W7 is small and light but true to its name. The upper lid housing the LCD feels sturdy and sports an armored look but still keeps the weight down and the performance up.

The CF-W7 is a member of Panasonic's "Business Rugged" line that packs in some of the features that define its semi- and fully-rugged lines that serve law enforcement, telecommunications and industry where computers are subject to harsh conditions. The CF-W7 is spill and drop resistant, has a full magnesium alloy case and a shock-mounted hard drive. Its screen is armor clad too. It also clocks in at a diminutive 1.4kg and has a stated battery life of up to 7hr.

Panasonic seems to have taken what a mobile professional really needs from an ultraportable PC. It is light weight, the screen is easy to read in a variety of lighting conditions and it has a comfortable keyboard, though with its 83-key board, a few keys may not be quite where you expected to find them. Also, its 4:3 aspect ratio screen is decidedly old school, and not in that good, nostalgic kind of way.



| Panasonic Toughbook CF-W7 | Average (three runs) |
|---------------------------|----------------------|
| Memory read | 3747 MB/s |
| Memory write | 2416 MB/s |
| Memory copy | 2679 MB/s |
| Memory latency | 110.5 ns |
| CPU Queen | 4523 |
| CPU PhotoWorxx | 11164 |
| CPU ZLib | 13990 KB/s |
| CPU AES | 3936 |
| FPU Julia | 4040 |
| FPU Mandel | 1958 |
| FPU SinJulia | 2938 |

At 1,024 x 768px, its resolution leaves a little to be desired too.

Its circular trackpad looks like it would take some getting used to but surprisingly doesn't. A circular pad may seem a strange choice at first. However, it does serve a purpose beyond just adding an interesting aesthetic element. Touching the outside of the pad, it can be used as a scroll wheel. While other track pads incorporate a scrolling section on the right and / or bottom of the pad, the circular layout works much better for scrolling through long documents. It feels a lot like the scroll wheel on an iPod.

Fujitsu LifeBook p7230

\$1,987 www.fujitsu.ca

Windows Experience Index: 2.0 **Processor:** Intel Core Solo U1400 1.2GHz

RAM: 1GB DDR2 533MHz (2GB max) **Weight:** 1.33kg

Dimensions: 272.9mm x 200.9mm x 27.1mm

Battery life (manufacturer supplied): 6hr **Cache:** 2MB L2 **FSB:** 533MHz

Hard drive: 60 GB, 4,200 RPM **Screen size:** 10.6-inch, 1,280 x 768 (WXGA)

Optical drive: DVD+R DL **USB ports:** 2 **FireWire:** 1

Media slot: SD, xD and MemoryStick Pro

Having been on the market for a year, the Fujitsu LifeBook p7230 is a somewhat older machine than others tested. Its single core processor puts it at a disadvantage in our benchmark testing. It has since been eclipsed by the slick Fujitsu LifeBook p8010 which was not available in time for the In the Lab feature.

The LifeBook p7230 as tested is a capable machine and, while it doesn't fare well in some of the benchmarks, it still gets the a Windows Experience Index rating of 2.0, the same as some of the newer machines in the lab this month.

Fujitsu LifeBook p7230



| Fujitsu LifeBook P 7230 | Average (three runs) |
|-------------------------|----------------------|
| Memory read | 3133 MB/s |
| Memory write | 2428 MB/s |
| Memory copy | 2515 MB/s |
| Memory latency | 117.5 ns |
| CPU Queen | 2322 |
| CPU PhotoWorxx | 7288 |
| CPU ZLib | 7053 KB/s |
| CPU AES | 2096 |
| FPU Julia | 937 |
| FPU Mandel | 451 |
| FPU SinJulia | 1591 |

Navigation is via a smaller than usual trackpad that offers scroll-sensitive sides. The left and right buttons below the trackpad are one plastic unit, joined in the middle by a thin section and aren't as responsive as we'd like. In between these two buttons is a small swipe-style biometric fingerprint reader. Using the fingerprint reader, users can lock down the log-in screen or store online passwords simply and securely.

It's encased in a magnesium alloy shell that protects the innards. However, the screen protecting lid is a little on the thin side; nothing a padded laptop bag can't remedy but a little worrisome none the less. A nice touch is the suede feeling underpad that gives the machine a little more traction when resting on your lap.

Sacrifices are made on overall keyboard size with any ultraportable and while the LifeBook p7230 is no exception to this rule, its keyboard takes little adjustment to use but is comfortable and effective.

HP Compaq 2710p



| HP Compaq 2710p | Average (three runs) |
|-----------------|----------------------|
| Memory read | 3768 MB/s |
| Memory write | 2413 MB/s |
| Memory copy | 2721 MB/s |
| Memory latency | 108.5 ns |
| CPU Queen | 5092 |
| CPU PhotoWorxx | 13854 |
| CPU ZLib | 15690 KB/s |
| CPU AES | 4423 |
| FPU Julia | 4542 |
| FPU Mandel | 2201 |
| FPU SinJulia | 3296 |

HP Compaq 2710p

\$1,749 www.hp.ca

Windows Experience Index: 3.4 Processor: Intel Core 2 Duo U7600 1.2 GHz

RAM: 2GB DDR2, 667 MHz (up to 4GB) Weight: 1.7 kg

Dimensions: 290 x 212 x 28mm Battery life (manufacturer supplied): 5.5 hr

Cache: 2MB L2 FSB: 533.MHz Hard drive: 100GB 4,200 RPM (up to 100 GB)

Screen size / resolution: 12.1 1280 x 800 (WXGA) Optical drive: N/A

USB ports: 2 FireWire: 1 Media slot: SD

HP's Compaq 2710p gets the distinction of being the only machine tested that is a convertible tablet notebook. It also has the more dubious distinction of being the biggest heaviest notebook tested and, counterintuitively given its size and weight relative to the competition, the only machine without an optical drive.

The exterior styling of the book is notably minimalistic and slick with its brushed steel look and lack of exterior adornment; something of a new one for HP who seem to like to dress their notebooks up. The result is a cool looking gun metal coloured slate when the magnesium alloy case is closed. Thanks to its solid chassis and given that its convertible screen (from notebook to tablet form) needs to be stronger than the average, it has a nice solid feel.

The 2710p is replete with neat little touches that add to the overall appeal. Above the screen is a small web cam, a pop-out LED light that makes it much easier to see the keyboard in the dark and a spring loaded WiFi antenna that slides gracefully out of the top of the screen when released. Also, at the top-right of the keyboard section of the notebook is a small touch-sensitive strip for volume control and switching to presentation mode. LEDs under the touch strip glow when activated. In a similar vein, the battery has a small button that you can press to light up a small battery gauge to get an idea of how much juice your battery has without booting up. On the right side of the screen sits a swipe style biometric fingerprint reader to lock the 2710p down and to manage passwords.

The pen interface works very well when used as a pointing device and the pen comes with a lanyard to tether it to the notebook but still allows plenty of cord to work with. It does add an awkward coil of string when the pen is docked however. The navigation nub set between the G and H keys on home row lacks refined control even when the properties are set to as slow as possible would arguably be much better gone and replaced with a trackpad, especially given the unused real estate below the keyboard. Perhaps that's just personal preference / prejudice speaking.

Toshiba Portege R500

\$2,299 www.toshiba.ca

Windows Experience Index: 2.0 Processor: Intel Core 2 Duo U7600 1.2GHz

RAM: 1GB DDR II SDRAM (up to 2GB) Weight: 1.1kg

Dimensions: 283 x 215.8 x 25.5mm Battery life (manufacturer supplied): "up to" 9h

Cache: 2 MB L2 FSB: 533 MHz Hard drive: 120 GB, 5,400 RPM

Screen size / resolution: 12.1-inch, 1280 x 800 (WXGA)

Optical drive: DVD±RW / DVD-RAM USB ports: 3 FireWire: 1 Media slot: SD

Undoubtedly the slickest of the bunch, the Toshiba Portege R500 is an impressive piece of engineering. Its screen is incredibly thin, akin to that of ultralight, ultraportable Sony VAIO machines. It's so shiny, it comes with its own microfiber cloth sandwiched between the screen and keyboard when you first pull it out of the box. Despite being the lightest of the ultraportables tested, it's a capable machine and somehow manages to incorporate an optical drive.

Its razor like dimensions come at a price however; the keyboard and upper chassis have a somewhat disconcerting bend to them; typing at a normal pace and pressure, I could see the keyboard giving under my fingers. Likewise, the underside gives when pressed in, as does the right-hand corner which, despite receiving repeated warnings that you're not supposed to carry your notebook that way ever, we all seem to do occasionally.



| Toshiba Portege R500 | Average (three runs) |
|----------------------|----------------------|
| Memory read | 3438 MB/s |
| Memory write | 2391 MB/s |
| Memory copy | 2606 MB/s |
| Memory latency | 117.6 ns |
| CPU Queen | 5081 |
| CPU PhotoWorxx | 11282 |
| CPU ZLib | 15670 KB/s |
| CPU AES | 4410 |
| FPU Julia | 4535 |
| FPU Mandel | 2196 |
| FPU SinJulia | 3271 |

There's an option to upgrade to a solid state hard drive in place of the traditional one as tested. Said option drives up the speed and battery life... and, of course, the price. Using LED to backlight the LCD screen (standard) also gives a boost to the battery life.

Navigation is via a trackpad which works well. In between the left a right mouse buttons is a biometric fingerprint swipe reader for locking the laptop down and for help with remembering passwords.

While it's far from an inexpensive option, the Portege R500 can be configured at purchase with a 64GB solid state drive (SSD) to bring access times way down and push battery life up closer to the ambitious "up to" 9hr stated by the manufacturer. The top-of-the-line SSD R500 commands a heady \$3,100.

In our benchmark tests, the Portege R500 fared well giving, among other specs, the highest sustained write hard drive, completing in just over two minutes what other models completed in six in the Everex "random read" test. It showed a timeline with fewer peaks and troughs than others in the lab and an average read time of 48.1 MB/s. Consider that the hard drive often acts as a bottleneck, slowing everything down and that's significant.

Conclusion

While it requires some extra care in packing up to take on the road, the Toshiba Portege R500 comes out ahead in this In the Lab feature. It's super light weight, long battery life, LED backlit screen, solid state drive option and razor thin dimensions make it the perfect travel companion. Fitting an optical drive in to a package as slim as this is an engineering feat unto itself. If you're OK with handling your laptop with kid gloves, the R500 is a winner.

By Andrew Moore-Crispin

Benchmarks explained

Benchmarking was done using predominantly Everest Ultimate Engineer Edition 4.20 from Lavalys Inc. www.lavalys.com. We conducted random read tests on the hard drive and cache and memory tests in power saver, balanced and high performance modes, the results of which are not specifically reported unless particularly significant.

We ran the following benchmarks with the computer plugged and with the factory set high performance mode activated. Benchmarks were run three times and averaged.

| | | |
|----------------|---|---------------------------|
| Memory read | This benchmark measures the maximum achievable memory read bandwidth. The code behind this benchmark method is written in Assembly and it is extremely optimized for every popular AMD and Intel processor core variants | Higher numbers are better |
| Memory write | This benchmark measures the maximum achievable memory write bandwidth. The code behind this benchmark method is written in Assembly and it is extremely optimized for every popular AMD and Intel processor core variants | Higher numbers are better |
| Memory copy | This benchmark measures the maximum achievable memory copy speed. The code behind this benchmark method is written in Assembly and it is extremely optimized for every popular AMD and Intel processor core variants | Higher numbers are better |
| Memory latency | This benchmark measures the typical delay when the CPU reads data from system memory. Memory latency time means the penalty measured from the issuing of the read command until the data arrives to the integer registers of the CPU. | Lower numbers are better |
| CPU Queen | This simple integer benchmark focuses on the branch prediction capabilities and the misprediction penalties of the CPU. It finds the solutions for the classic "Queens problem" on a 10 by 10 sized chessboard (mathworld.wolfram.com/QueensProblem.html) | Higher numbers are better |
| CPU PhotoWorxx | This integer benchmark performs different common tasks used during digital photo processing. It performs a series of varyingly complex tasks on a very large RGB image. | Higher numbers are better |
| CPU ZLib | This integer benchmark measures combined CPU and memory subsystem performance through the public ZLib compression library Version 1.2.3 (www.zlib.net). | Higher numbers are better |
| CPU AES | This integer benchmark measures CPU performance using AES (a.k.a. Rijndael) data encryption. It utilizes Vincent Rijmen, Antoon Bosselaers and Paulo Barreto's public domain C code in ECB mode. | Higher numbers are better |
| FPU Julia | This benchmark measures the single precision (also known as 32-bit) floating-point performance through the computation of several frames of the popular "Julia" fractal. | Higher numbers are better |
| FPU Mandel | This benchmark measures the double precision (also known as 64-bit) floating-point performance through the computation of several frames of the popular "Mandelbrot" fractal. | Higher numbers are better |
| FPU SinJulia | This benchmark measures the extended precision (also known as 80-bit) floating-point performance through the computation of a single frame of a modified "Julia" fractal. | Higher numbers are better |

News Briefs

Flash dances on your smartphone display Adobe introduces more Flash technologies for the small screen.

Adobe has developed a new technology that adds media richness to the home screens of smart phones. The platform, called Adobe Flash Home is being picked up by content providers as diverse as MTV, the NASDAQ stock market, eBay and Reuters, among others, says Adobe.

This will be a one-two duo, the other half being an updated version of offline portal technology called Flash Cast 2. Adobe says several phone carriers

(including NTT DoCoMo in Japan, Verizon Wireless and Chinese carrier Chungwa Telecom) allow the companies to push branded content to customers' cell phones customized to the users' profiles. Among the types of content possible with Flash Cast are news, sports and entertainment channels.

Also for the small screen Adobe already has Flash Lite 3, which allows users to play Flash Player video on the tiny cell phone screen. Adobe says a number of phones are available with Flash Lite included.

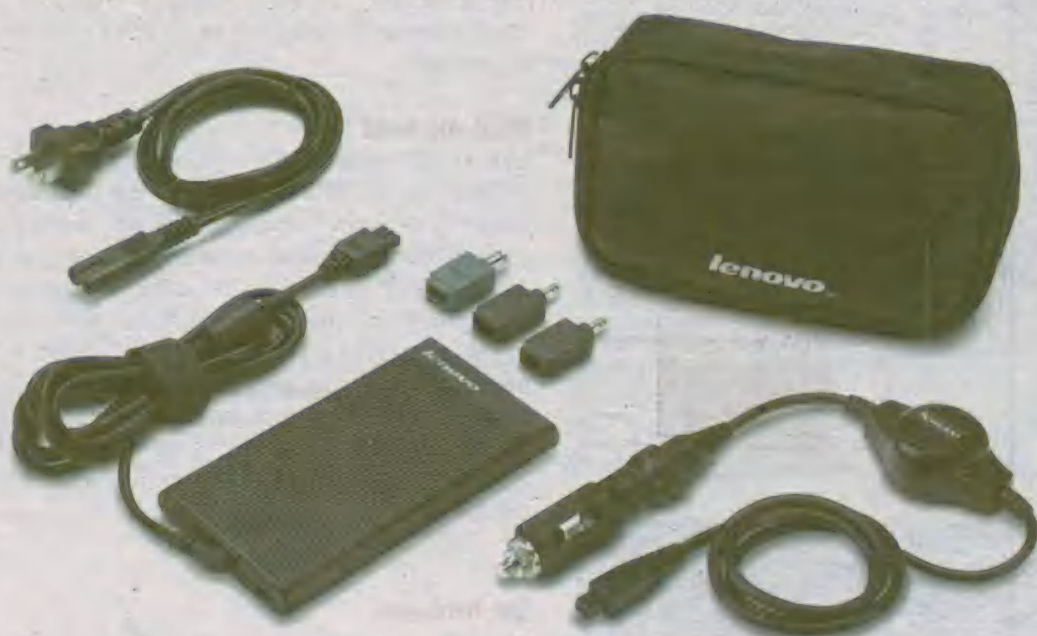
www.adobe.com/products/flashlite

Super slim laptop power adapter Lenovo lightens the load with its smallest and slimmest power adapter to date

Finding space in carry on luggage for all the chargers required for the sundry gadgets and gizmos that accompany on a business trip is no easy task. With all their proprietary connections and differing voltage requirements, every device seems to require you to pack its own power adapter.

Lenovo is attempting to lighten the load with what the company is calling its most adaptable adapter. The ThinkPad and IdeaPad 90W slim AC/DC power adapter is about the size of a deck of cards and, with the optional charging tips, it can connect to and charge just about any gadget you're likely to have in your arsenal.

It is a laptop power adapter first though and with the power adapter of many laptops living up to their "brick" moniker, it may well be worth the \$119 it commands. www.lenovo.com/ca



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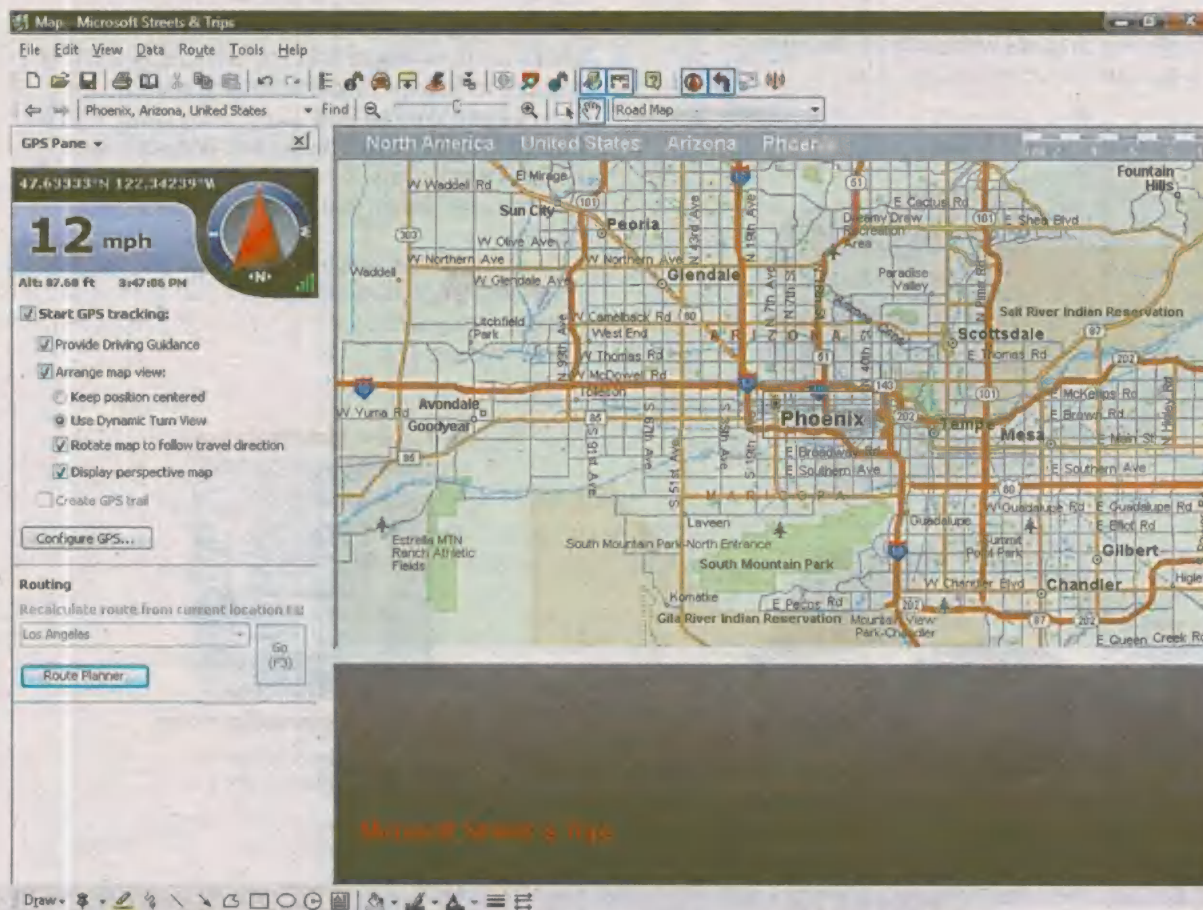
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GPS on Your Laptop

Bigger screen = better experience?



While originally developed by the US Department of Defense, the global positioning system (GPS) has become increasingly popular as the price of the technology has dropped significantly in recent years. As the price has dropped, the functionality has grown. Personal GPS is a practical and to many, an indispensable technology. Stereotypically, when people

think of GPS, they think of portable standalone personal navigation systems like TomTom, Garmin, Magellan et al.. However, depending on your budget and intended use, a standalone unit may not be the most ideal solution for your navigational needs. In this article we will be looking at what is needed to outfit your everyday laptop to enable fully-featured GPS

functionality. Using your laptop as the backbone to your GPS has many tangible benefits. Arguably the most significant of which is the relatively low cost. Where most standalone units range from \$350-\$450, equally capable—and in some ways improved—functionality on your existing laptop can be had for around \$150.

What you need

Like any GPS solution, there are two main components: the GPS receiver itself that uses satellite telemetry to pinpoint your latitudinal and longitudinal position and the unit that interprets the received signal and displays it. In this case, the unit interpreting and displaying the information is your laptop, but the level of detail displayed is based on what GPS-capable mapping software you choose. As for the GPS receiver, most of the big-name GPS manufacturers—Garmin, GlobalSat, Deluo among them—have wired USB and more expensive Bluetooth GPS dongles to choose from.

The hardware

When choosing a USB GPS receiver, the most important specification is that the unit is NMEA compliant (specifically, the more widely available and adopted NMEA 0183.) NMEA is the standard communication protocol that all major mapping software uses to recognize third party GPS devices (think of it as the TCP/IP of the GPS world.) Aside from that, most of a receiver's characteristics are straightforward—accuracy, update rate, etc. Generally speaking the more expensive the GPS receiver the newer the chipset. Like all technology, the latest chipsets are faster, use less power, and are more accurate than older designs.

Performance notwithstanding, other aspects to consider are most likely going to come down to your personal preference. One of the coolest USB GPS receivers I have seen is Deluo's MouseGPS, which, as the name suggests, is a GPS receiver that doubles as a portable optical mouse. It can't function as both a GPS receiver and mouse at the same time, but changing between the two modes is as easy as flipping a switch. Naturally, the doubling up of functionality in one device means there will be one less thing to carry when you're on the road. Another neat receiver is GlobalSat's BU-353. Its claim to fame is that it's waterproof, making it perfectly suited for boats and marine navigation.

The software

For the most part, even basic mapping software will suffice in getting you from point A to point B. If you're not looking for anything fancy you can probably get by with the simple map software that usually comes packed in with most USB GPS receivers or the free applications you can find online. If, on the other hand, you're looking for something fully-equipped you'll probably have a better experience with either Rand McNally's Street Finder (discontinued but still available at retail), Delorme's Street Atlas, or MS's Streets & Trips. All three support GPS functionality.

Glossary

GPS: Global positioning system - Satellite telemetry using at least four satellites. A GPS receiver uses trilateration to determine your position on the earth's surface. civilian units are typically accurate to within a few metres.

NMEA: National Marine Electronics Association is the US-based governing body of the communication standard used by marine electronic devices (of which GPS is a part).

NMEA 0183: 0183 is currently the most widespread marine electronic device standard that is used for the unidirectional communication between GPS receivers and the satellites used to triangulate their position.

NMEA 2000: The successor to 0183, NMEA has a few very significant differences to previous versions. Most notably, the data rate has been increased to a whopping 250k/s from 0183's 4.8k/s and it uses a binary message system instead of the simpler ASCII system of 0183.

Longitude: the angular distance east or west on the earth's surface, measured by the angle contained between the meridian of a particular place and the prime meridian, expressed in degrees.

Latitude: the angular distance north or south from the equator of a point on the earth's surface, measured on the meridian of the point.

In layman's terms, Longitude and Latitude are essentially X and Y co-ordinates that take the curve of the earth's surface into account. A GPS system, using four satellites (four sats are needed because the earth is a sphere, not flat), determines those co-ordinates and plots them onto a map, allowing you to see your location in a practical manner.

For more information on how exactly GPS works, complete with clear examples, have a look at GPS receiver TomTom's excellent explanation at www.tomtom.com/howdoesitwork



If you're looking at options beyond the three previously mentioned, GPS support should be clearly labeled on the software box or Web site. As mentioned, all NMEA compliant GPS receivers will work, so older (and cheaper) mapping software may be an option. With that in mind, for the sake of accuracy, you'll want to use something fairly recent (2005 or newer) and it's important to note that the newer the version, the more refined the GPS support.

What to buy

One of the most complete out-of-the-box GPS solutions for the PC is Microsoft's Streets & Trips with GPS Locator, which has a MSRP of \$149. Other bundles, such as Garmin's slightly cheaper GPS18 Deluxe (MSRP of \$129), also come with both a GPS receiver and map software, but it may not be as familiar to most users as MS Streets & Trips. Not only that, but MS's premiere Streets & Trips package comes with a

free year's subscription to MSN Direct Receiver giving you on-the-road information, like traffic updates and local gas station prices, without an Internet connection.

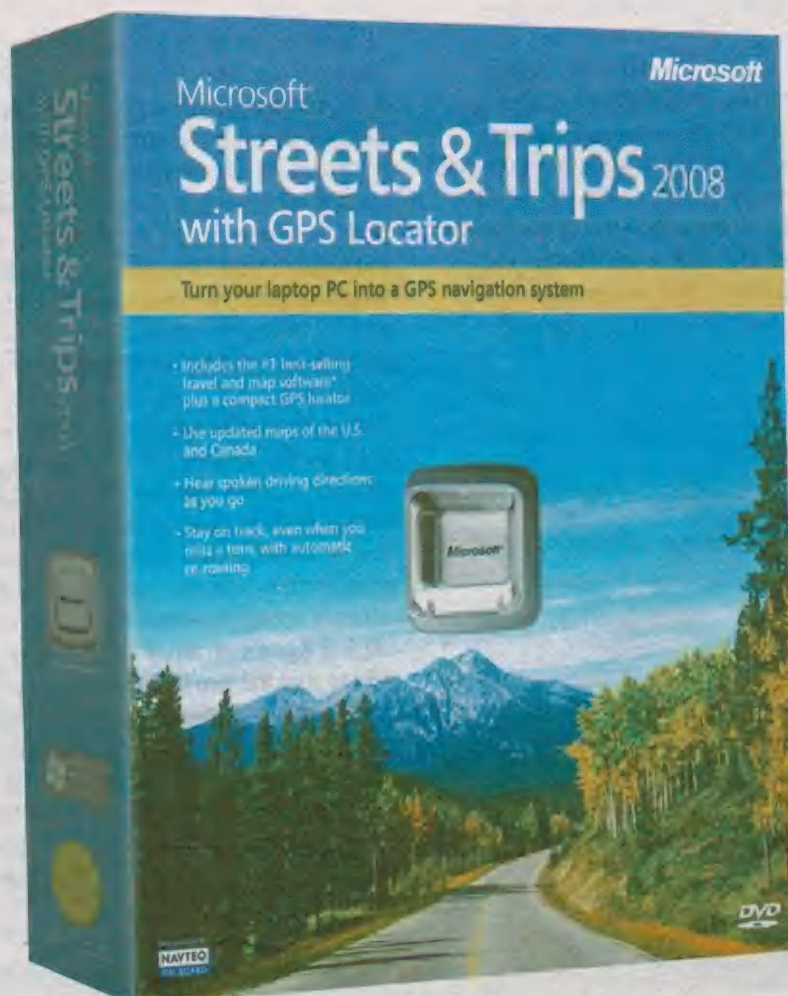
That said, there are benefits to selecting your own USB GPS receiver separately from your map software. It gives you the flexibility to choose the best receiver/software combination for your needs. Say, for example, you've never used Microsoft Streets & Trips but you have had loads of experience with previous versions of DeLorme Street Atlas. Since you are familiar with Street Atlas, it may be worthwhile to purchase it instead of an all-in-one GPS bundle like MS Streets & Trips, even though the MS bundle might save you a bit of cash. Similarly, if you already have GPS-capable software from a previous year, it may serve your purpose just to get a USB GPS dongle instead of the updated software and GPS bundle.

All dressed up and ready to go

The advantages of using notebook-based GPS are numerous; first, there's the keyboard that makes it easier to punch in an address. Also, even a small laptop screen is going to be bigger than the LCD screen of an all-in-one GPS solution. You can easily save, share and back-up your map waypoints, download updates and more.

While standalone units have their perks, by consolidating as many of your devices as possible, packing and traveling will undoubtedly be easier. And hey, the bottom line is that most of us tend to take our laptops along with us when traveling anyway. Asking your laptop to pull double duty and act as your GPS unit on the way makes sense.

By Mike Palermo



Loki WPS

Although it's not exactly GPS, Skyhook Inc.'s software, Loki, uses some of the same principals. Using what the company has dubbed WPS—Wi-Fi Positioning System—Loki is a Java application that uses Wi-Fi access points to determine your position. When combined with other online apps, like Google Maps, Loki gathers all sorts of useful information about the area you're in. Cool!

Because it relies on access points to establish a user's location, Loki only works in areas with city-wide Wi-Fi (for example, Toronto) meaning its availability is restricted to certain cities making it not nearly as robust as an actual GPS device. That said, the potential for the technology is extremely encouraging and if blanket Wi-Fi initiatives take off in major cities across North America, it may not be too long before Loki-like applications are the most cost-effective positioning and navigational systems available.

You can try the beta software out at www.Loki.com for free. For your convenience, there's also a page on the site to check if you have Wi-Fi coverage in your area.

Digital Documents in a Snap

Fujitsu's portable desktop scanner, the ScanSnap S300

ScanSnap S300

\$295

Fujitsu www.fujitsu.ca

Scanning speed: 8ppm (16 duplexed) on AC power, 4ppm (8 duplexed) on USB power

Resolution: Up to 600 dpi colour, 1,200 B&W

In the battle for the paperless office, Fujitsu has quite the arsenal.

Its latest in the well received ScanSnap line tries to capitalize on the success of the larger personal or work group document scanners and brings some of that power to individual users' desktops. Perhaps its most impressive specs have nothing to do with the scanning speed, Energy Star certification or the multipurpose software that ships with the device. They lie in the relative small size and low weight of the device. At 284mm x 95mm x 77mm and 1.4 kg, along with the ability to power the scanner via an included USB adapter, the ScanSnap S300 represents the first truly portable and functional document scanner.

Make no mistake: this is a document scanner first and foremost. It's not designed to scan pictures; the scan quality is excellent for reference and filing of text pages, full colour brochures and steps in between but not sufficient for photo archiving.

At first, my reaction to a portable desktop document scanner was quizzical. Why would anyone want to bother with a dedicated scanner? Especially in the days of the multifunction printer. As it turns out, after using the device for just over a month, there are plenty of reasons:

Quickly and easily sending signed documents without faxing

Using the S300, sending printed pages that would otherwise have to be faxed is a simple and painless affair. Put said document in the feeder tray, hit the scan button and choose "scan to email," if you're using Outlook or "scan to file" if you're using a Web-based email client.

Scan and manage business cards with OCR

You can be as socially networked as possible but you still have a stack of business cards—perhaps carefully alphabetized by company or contact name but more likely not—stacking up in a desk drawer. Or perhaps held together with an elastic band.

Business card scanners are nothing new. CardScan (www.cardscan.com), for example, gives away its core focus in its combined company and product line name. It does one thing and does it very well. The S300 does several things and this one particular thing almost as well.

In our tests, the ScanSnap S300 handled nine business cards in the feeder without issue. The feeder wouldn't pick up when I tried 10 standard cards.

Scanned cards automatically go through an optical character recognition (OCR) process and the included CardMinder software pulls the relevant info from scanned cards and populates the appropriate text fields such as name, title, phone number and so on. Generally with good results, though I found the software often confused 6's for 5's. A few other such recognition problems cropped up but nothing to mar

the overall usefulness of this feature.

Within the CardMinder software, users can make marquees around contact information on a scanned card and then click the appropriate field if it wasn't automatically recognized initially. This feature works very well and seems to have a higher degree of accuracy than the initial scan.

The software has a hard time understanding business card formats beyond the traditional size, cutting off information on over-sized cards. Similarly, a black card with white text threw the CardMinder software for a loop. It was unable to recognize any characters.

Once cards are scanned in and the OCR is checked for accuracy, exporting contact files for Outlook, Outlook Express or one of a couple of other more obscure contact management programs is simple. Likewise, exporting a comma separated value (CSV) file for use with just about any contact / email software or online service is simple.

Scan multiple documents at once

The S300 runs at 8ppm scanned front and back in duplex mode and has a document feeder for up to 10 pages. I found this useful in my everyday work flow for documents that I need to keep a record of but that I don't want to physically file away.

With the document feeder present and accounted for, I would liked to have seen some way to separate scanned files. As it stands, choosing PDF which is the most usable of the file formats available, assembles documents in to one file. Useful, but having an option to treat pages as individual items (without deviating from the PDF file format) or to assemble multiple pages into more than one PDF document would be welcome.

As a single pass, full duplex scanner, the ScanSnap S300 does an excellent job of intelligently scanning and removing pages. If set to automatically duplex scan, the ScanSnap software that ships with the device will remove blank pages by default or can be set to keep all scanned pages. Automatic removal of blank pages worked very well with only a few exceptions. Folded pages (i.e. documents that arrived in a standard letter sized envelope) would occasionally

confuse the S300 but all in all, the auto duplexing and removal of blank pages works very well.

Keeping stuff organized

The tax man, as ever, cometh. If you've ever been on the wrong end of an audit (is there a right end?) you likely spent hours, days or perhaps weeks sorting through old receipts to demonstrate that the business expenses you filed were legitimate. Perhaps you were able to do so or perhaps you weren't. Keeping a digital record of your receipts ensures you always have a copy available should then need arise.

With a regular and effective backup routine, it's also a fail safe against losing important documents. And with a few well placed tags and some effective foldering, it also makes the files a lot easier to find than their paper counterparts.

This applies for bills, correspondence, bank statements or whatever else you're still receiving in hard copy.

If you'd prefer to have someone else suggest ways to build a digital work flow, the scanner also comes with the Electronic Filing Cabinet for Dummies software (www.org-matters.com).

Coming along for the ride

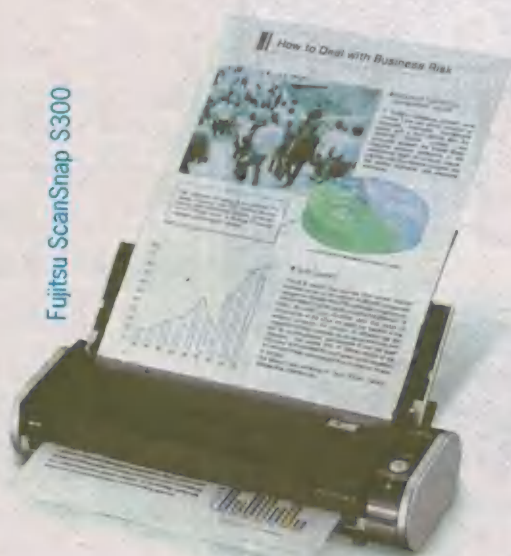
While my tests of the ScanSnap S300 have all been at my desk, there is a market for mobile scanners and this is the only entry in the category I've seen that combines a document feeder, duplex scanning and the ability to run on USB power into a relatively small and lightweight package. When running off USB power, the scan time falls from eight pages front and back per minute to four.

Fujitsu says there's a whole world of mobile professionals who, while they're always trying to travel light, can simplify their on the road work flows with a portable scanner. Anecdotally, company reps mention truck drivers who need to send invoices and bill of landing slips back to dispatch as soon as possible, thus allowing billing to occur on the day of delivery as opposed to when the driver is back in the office after a long-haul trip. They also mention mobile accountants and tax professionals who need to send copies of documents back to the home office for filing and / or verification.

Likewise, mobile sales professionals who spend a large portion of their working time on the road can file expense reports with the receipts. In this case, the worker doesn't need to dip too far in to personal cash flow or credit before an expense cheque is cut... provided the company paying out said expense report accepts copies as opposed to originals. Some won't.

At 1.4 Kg, it's no small addition to your laptop bag. Add to that the two USB cables—one for power, one for communication—and you'll want to give some thought before you pack the document scanner in to your carry on luggage. However, as a desktop scanner that's relatively light and easy to take on the road if you need it, the ScanSnap S300 is a winner.

By Andrew Moore-Crispin



News Briefs

Pentax K20D SLR tops 14 megapixels New entry-level K200D shares some highend features

Pentax Imaging Company has thrown down a gauntlet in the competitive "enthusiast" SLR arena with a refreshed K20D. This is a sub-\$1,300 SLR (US pricing is \$1299.95, Canadian pricing not given) with a 14.6 megapixel image sensor. Outwardly the K20D looks the same as the K10D, which garnered many favourable reviews for its high-end features at a mid-level price. The most noticeable difference is the larger 2.7-inch LCD on the back.

But it is inside where things get really interesting. The sensor is CMOS design that has 14.6 megapixels, developed in collaboration with Samsung. The sensor's ISO sensitivity goes as high as 6400. Supporting the new sensor are a number of advanced technologies that have also shown up on performance class SLRs from other manufacturers—image appearance presets (which tweak adjustments to saturation, hue, contrast

and sharpness); an expanded dynamic range setting; a sensor dust reduction system plus a system that shows the photographer where dust has lodged on the sensor; sensor-based image stabilization; and a Live View function that allows the photographer to compose using the LCD monitor. Maintained is the pro-level weather and dust sealing that made the K10D a hit with many photographers. The K20D is scheduled to be available for sale in April.

SanDisk Ultra II SDHC card hits 32 GB Ultra II Plus line incorporates hinged USB connector

SanDisk has taken its Ultra II line of SDHC memory cards to new storage heights with a 32GB model. The SDHC card format is finding a home in increasing numbers of digital still cameras and camcorders, and Sandisk says the 32GB card will hold around 8,000 high-resolution images or up to 40 hours of video (actual capacity depends on a number of factors including file format, amount of compression and image resolution). The company has also introduced a 16GB version of the card. Both are rated as Class 4 SDHC cards and SanDisk says that's good for read and write speeds of up to 15MB/s.

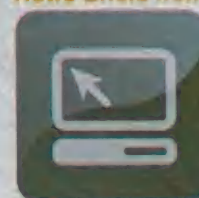
SanDisk has also introduced an eight gigabyte card in its Ultra II SDHC Plus line. The defining feature of the Plus line is a novel hinged design called Hinge Lock technology: the card is hinged and when folded, a USB connection is revealed that may be inserted into a USB port on any computer. In other words no extra cables or card readers are needed to connect the card to a computer.

Failsafe promises more secure notebooks Hitachi, Phoenix collaborate on laptop data protection...

If you buy a new notebook computer equipped with a Hitachi hard drive, chances are good that you'll have an extra measure of data security. Hitachi Global Storage Technologies has announced it will be including Phoenix Technologies' FailSafe theft-deterrence service on its notebook hard drives. Failsafe is an agent-based system that allows a notebook computer owner or administrator to track and remotely disable and securely erase the disk drive. The Failsafe system can also help in the recovery of a stolen notebook by communicating its location. The Failsafe agent resides on the hard drive and even if the notebook is stolen and thief removes the agent, the owner can re-install it remotely. Hitachi says all of its new 2.5-inch mobile hard drives can be enabled at the factory with an AES-128 encryption engine embedded in the drive electronics though a system on a chip. It provides on-the-fly data encryption, and should the drive fall into the wrong hands it can be securely wiped by deleting the encryption key.



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Vacationing, DIY Style

Finding the best holiday deals online and off

When the Internet really took off in the 1990s and airlines and hotels realized this newfangled Web thingy could be a real boon for marketing and potential bookings, savvy shoppers took the cue. Online travel agencies—at least those of any repute—hadn't even emerged, but that's what made it so satisfying for those who weren't afraid of a little detective work.

Finding a bargain flight, a cheapo car rental, a few motel deals for driving vacations and, of course, nabbing those extra-special savings at a Vegas hotel or Whistler resort took time and research, but the rewards were almost psychological in magnitude. After all, beating the system—and saving money—is always good for the soul.

Today, with the assistance of online agencies, anyone can book a trip virtually anywhere within a few minutes of booting up the old PC. Some of the most popular Canadian sites are Expedia (www.expedia.ca), Travelocity (www.travelocity.ca), SellOffVacations.com (www.selloffvacations.com), and exitnow.ca (www.exitnow.ca). And there are dozens more.

Indeed, depending on your situation, you may not need the Internet at all. If, for example, you're headed for a destination with which you're not at all familiar, if you just don't have the time or the desire to get involved, or if you're looking for an all-inclusive, full meal deal package, your friendly neighbourhood brick and mortar travel agent remains a viable option.

Moreover (and don't tell anyone you read it here), some nefarious consumers will play one against the other—grabbing a good deal from an online agent and taking that deal to their local agent for a slam-dunk price smackdown.

if they can do it, so can you

But what do online agencies do that you can't? Sure, they buy in bulk, have more resources, and are tied tightly to the tourist trade, but the truth is that they need to make money too, and that money has to come from somewhere. Moreover, what if you want a custom vacation—something off the beaten path or something with more flexible cancellation or modification dates?



What if you're doing a last-minute or a driving vacation? What if you've already covered the transportation and simply need lodging? And what if you just know the \$100 nightly rate for the hotel you've been assigned isn't the best that hotel has to offer?

The obvious conclusion: If money is important, and if you don't mind a hands-on approach, there's a strong case to be made for do-it-yourself, 'Net-based trip planning.

Clearly your first decision is a destination and accommodations. Only you know where you really want to go, and you can certainly turn to informative travel resources such as Frommer's (www.frommers.com), Fodor's (www.fodors.com), and Lonely Planet (www.lonelyplanet.com), for a little assistance in that regard. A nifty online resource for general city information, especially if those cities fall within Canada and the US, is Skyscraperpage.com (www.skyscraperpage.com). Lots of info here, and oodles of friendly folk in the discussion forum to answer virtually any question about their specific town. The forum at Virtual Tourist (www.virtualtourist.com) isn't quite as active, but all the information here is delivered by (and geared for) real tourists.

Straight-up hotel review sites are now creeping up everywhere, and they're definitely not to be taken lightly. However, can any of these sites be fully trusted? The pro sites generally assign a single reviewer per establishment—someone who may not have the same priorities as you—and that review may already be a few months or years old.

"User" review sites such as www.tripadvisor.com offer more opinions, but those opinions must be taken with the proverbial grain of salt. How do you know, for example, that a given reviewer simply isn't a disgruntled ex-employee or a business traveler who had a particularly bad day? How do you know he or she isn't in reality working for an opposing hotel?

You don't. That said, if a property has several dozen reviews, you're getting a decent and reliable cross-section.

Be careful of your Googling

So, what's next? If you simply Google "Mexican vacation" or "New York hotel," you'll get, literally, millions of hits — many of which are... questionable. Most won't save you any money at all, and many exist merely to rebroadcast standard rates, set you up in low-grade accommodations, or stick you with "deals" that are too good to be true.

A better idea is a metasearch travel website such as Kayak

(www.kayak.com), which just last month purchased chief rival SideStep to become even more powerful. Kayak and its ilk exist one level above traditional online travel agencies and sites, acting essentially as travel-themed search engines, scanning traditional travel sites and agencies, individual hotel websites, airline websites, and much more for the lowest prices. Kayak, theoretically, does what you yourself could do if you had nothing but time. As a reader (and Air Canada employee, it must be noted) recently pointed out, sometimes the best deals on air travel alone can be snagged through the carrier's own site. If nothing else, comparing the rate you've been offered through a travel site with what a major carrier offers is a wise move and may even knock a few bucks off the flight.

But if you really want to cut out all the middlemen, you can piece together a great DIY vacation that's not only fully customized but surprisingly economical.

Let's start with accommodations. To really save the bucks, you'll want to get personal. Head directly to the authorized website of each of the hotels you're considering. In Vegas, for example, you can go to www.bellagio.com and uncover info not only on that property, but all the properties owned by the MGM Mirage conglomerate. Here, you can check each website manually for current specials and utilize online calendars to determine availability.

It's very important to note that the rates at many top-level hotels and resorts worldwide bounce about regularly in accordance with the current occupancy status. If a large conference backs out, the room rates can conceivably plummet, overnight. Furthermore, many properties run regular promotions—food and drink specials, no-charge suite upgrades, cut-rate spa or gym facility deals, and even flight deals. Online travel agents and even metasearch engines don't always pick up on those deals because they're typically available for just a day or two. And don't forget to sign up for email promotions. Many hotels run such programs, and the bargains can be tremendous.

Damn the technology, pick up the phone

If you can't find the deal you want online, use the Internet as a phone book and try calling the property in question. There's a good chance the latest rates simply haven't been posted online. And if you're calling a chain, opt for the hotel directly rather than a central toll-free line—the people at the desk know about the most recent cancellations and promotions and are often authorized to

give one-off discounts. Regardless, don't forget to mention car and travel club affiliations and applicable senior, children's or other discounts.

Road trips are even more likely to benefit from the DIY approach. After all, how many travel sites are set up to see you through pokey little bergs in the middle of nowhere? Not many. But with the help of associations such as the Canadian Automobile Association (www.caa.ca), which provides no-charge "Tourbooks" and helpful online "triptiks" to its members, online resources such as MapQuest (www.mapquest.ca), and some judicious sleuthing, car-based vacations have never been easier.

Finding cheap flights is often a matter of timing—in many instances, split-second timing. Indeed, there's a very real chance you might find a great price in the morning, a heart attack-inducing rip-off in the afternoon, and then a real bargain basement figure in the evening. Needless to say, a certain amount of trial and error can be expected.

In general though, the closer you get to your date of departure, the higher the prices will be. Start with the typical online travel sites and metasearch sites listed above, then move on to the individual airlines, where you'll avoid the

commissions and added fees of all-purpose sites and perhaps even take advantage of bonus frequent flyer points. Ask if they can match prices, and definitely join any email promotion programs but keep in mind that you may want to set up some email filters to keep the deluge of travel deal emails separate from the rest.

By Gord Goble

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Throw Some Light on the Subject

The benefits of external flash in photography

Most advanced SLRs as well as some intermediate point-and-shoots can be used with an external flash unit. Such cameras will have a flash shoe (often called a hot shoe), a PC-sync connector or built-in RF radio to communicate wirelessly with RF-equipped flash heads. If you do a lot of indoor photography (or outdoor photography where high contrast is a problem), consider an external flash unit.

Let's back up a moment and look at the flash you may already have on your camera—the built-in one. These are very handy for a variety of situations but have two major limitations: positioning and light output. Point and shoot cameras tend to be quite small and so any built-in flash has to be quite close to the lens axis, which leads to problems like red-eye. Some camera designs put the flash head on an extension arm that pops up from the body, which improves quality somewhat by moving the flash head further away from the lens. However these innovations in flash location can't solve the other problem, which is relatively low output.

The capability of a flash unit is usually stated as a Guide Number, which represents the maximum distance that the flash will be effective at a given ISO sensitivity and lens focal length. Some camera manufacturers simply state the effective distance range for various zoom lens settings in feet or metres. If the maximum range for your point and shoot is four metres, the flash isn't going to be fully effective if you are more than that distance away from your subject.

External flash systems solve both problems at once. First they are bigger with larger battery packs and

generate a lot more light than a built-in flash. If mounted on a camera equipped with a hot shoe, they move the flash source further away from the lens axis. As well, many on-camera flash units have a tilting and swivelling head, which allows you to aim the light source so that it isn't pointing directly at your subject. Pointing the flash at the ceiling, for example, softens the light output and reduces the hard-edged shadows that are characteristic of unmodified flash lighting. Flash units may also come with light modifiers that also soften the light, or filters that change the colour of the light—useful for colour balancing as well as special effects.

Today external camera mounted flash units are electronic marvels, often integrating with a digital camera's overall exposure control system. One of the most useful advances has been tying flash output to the camera's through-the-lens or TTL metering system. Most major camera makers have TTL flash systems that go by a variety of names but operate in basically the same way. The camera's exposure metering system exerts very fine control over the flash unit's output for precise exposure. Before TTL flash you had to be something of a lighting scientist to apply the inverse square law to calculate the correct flash output setting.

While camera mounted flash implies that you mount it on the camera body via the hot shoe,

a recent innovation allows you to position the flash anywhere. Wireless communication between the camera and a flash system is a technology that comes out of studio lighting, where it's main advantage is reducing the clutter of wires you would otherwise need between camera and flash. You can buy wireless systems that include a commander unit that connects to your camera and a receiver that connects to the flash. These allow you to retrofit older equipment with wireless capability. For example, I have used one with my five year old SLR to control a Vivitar 283 flash that I bought in the 1980s.

Newer cameras, particularly enthusiast- and pro-class SLRs, often have the RF wireless transmitter built in. These can be paired with flash units that are also wireless-enabled. You usually have to stick with a flash and camera made by the same manufacturer although third-party flash makers offer variations of wireless models that work with specific camera brands. For example the Mecablitz 58 AF-1 N and 58 AF-1 C are the same basic flash unit tailored for Nikon (N model) and Canon (C model) cameras.

In-camera wireless commanders are quite versatile. Typically you will have a

few channels, and the ability to control multiple flash units within each channel. You can create a very sophisticated lighting environment with relatively small tools. For example, I recently went on a photo assignment using an Olympus E-3 SLR and the Olympus FL50 flash on loan from Olympus. The job involved a flight to a different city so I wanted to travel as light as possible. I packed the minimum complement for a basic one-light setup: two light stands, an umbrella, a collapsible reflector and reflector holder, and a backdrop kit.

Truth be told, I packed an extra flash head and my wireless controller since I'd never used the Olympus in the field and so I wasn't sure how it would perform. As it turned out, the extra gear never made it out of the bag. The Oly worked exactly as I'd hoped. Even when bounced into an umbrella and with the camera set at ISO 100, the FL50 had plenty of power to light the sets—mainly one or two students working on science experiments around a lab bench. Moreover, adding another head for bigger setups is a matter of adding grams to your traveling weight, not kilograms.

The external flash is nearly as old as photography itself. Very early portrait photographers used flash powder that created a bright flash of light when ignited. From there photographers progressed through single-use flash bulbs to portable electronic flash. With all the intelligence being built into today's camera-mounted flash units there's more reason than ever to include one in your kit bag.

By David Tanaka



Mecablitz 58 AF-1



Olympus FL50

Building: An In-Car Satellite Radio Install

Oh what a tangled web we'd (otherwise) weave...

XM SkyFi 2



Commercial radio. Has there ever been a more apropos moniker. Six minutes of "non-stop music" followed by another six of non-stop commercials. Throw in some annoying DJ banter, a few more commercial breaks some weird noises between songs and music that no one really cares about but that won't annoy them to the point that they change stations or hit the power button and you have the recipe for a successful radio station on the crammed FM band.

By contrast, satellite radio offers up to 130 channels of commercial free radio for a subscription fee of about \$15/mo.. That means more options for listeners and more freedom for stations

to cater to their listener group. More vanguard radio willing to break the cycle offering comedy stations, world news, music stations by genres. This in addition to the bland yet inoffensive fare that typifies commercial radio.

So it stands to reason that satellite radio, despite asking you to pay for something that's traditionally been free over the air, is something you will want to take a closer look at. And there will come a point when the cacophony of wires required to allow you to listen to your portable receiver in the car has to be hidden out of the way instead of coiled in your cup holder. Enter HUB: The Computer Paper's handy in-car

satellite radio install guide. Isn't there some hacking about required? Heck yeah, but nothing too Sirius.

There are quite a few types of satellite radios ranging from truly portable units to factory installed car stereos. The cheapest and most common is the plug and play unit which requires an external antenna as well as external power. It can be used in a boombox, home stereo or car configuration and it allows you to take your subscription from place to place. A typical plug and play kit includes a vent mount or windshield suction mount, a cigarette lighter power

adapter, a cradle, a magnetically attachable satellite antenna, an FM transmitter antenna and the removable tuner itself. First, you need to choose where you're going to place the radio, most likely low on the centre console so it doesn't distract from driving. Of course this depends where your vents are or if you have a windshield (suction) type mount. Next, you have to choose where you are going to place the satellite antenna. This can be a bit tricky as you have to figure out the path of least resistance with regard to getting the antenna cable all the way

Getting Help

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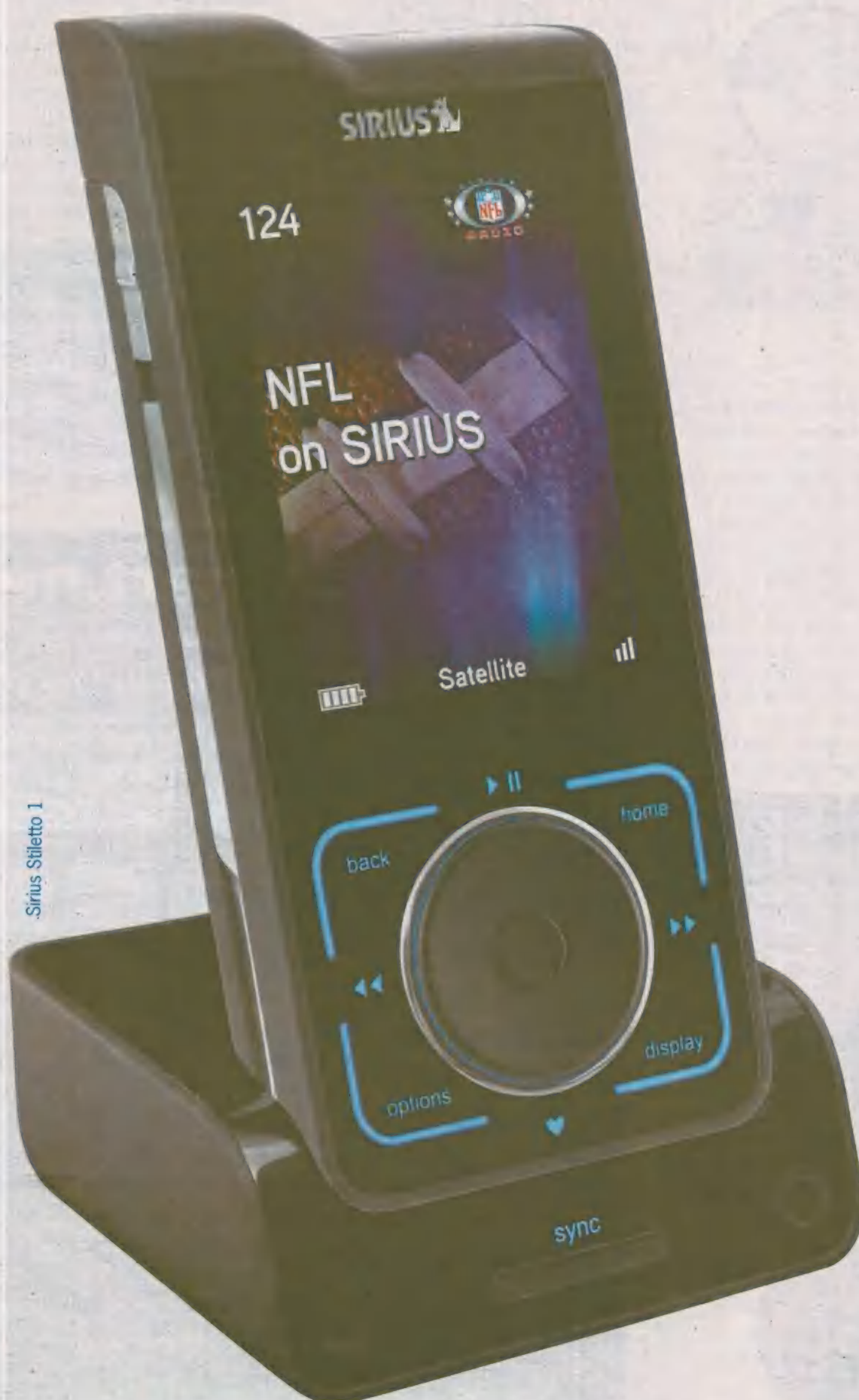
from the outside roof to your interior console without pulling panels out of your vehicle or otherwise pimping your ride too much. Most people will opt for the rear-roof placement but you can place it in the front-roof or on top of the trunk. Roof placement is best assuming it's away from any obstruction like a roof rack but a trunk install can be easier as you avoid tangling with the weatherstripping around a windshield.

- 1 Make sure your vehicle is in a place with a clear line of site to the sky.
- 2 Take out the magnetically attachable satellite antenna and stick it in position (on roof).
- 3 Run the cable around the weatherstripping on the rear window down to the trunk.

- 4 File a small notch in the metal under the rubber trunk seal to allow the antenna cable to go under it. This will require a flat head screwdriver or chisel to push up the seal away from the metal as well as a steely nerve, insurance and, well, a chisel. Also be sure to reinforce the wire there with some tape or a sleeve.
- 5 Now that the cable's in the trunk, it's just a matter of fishing the cable under floor mats and under seats until it reaches underneath the console.
- 6 The next thing that needs to be done is installing the SureConnect or FM extender cable in order for the satellite radio to transmit its signal to your regular radio which will allow you to actually hear it. In the case of XM's SureConnect, you need to find your regular FM antenna which may be in a windshield or outside in the front or rear if it's a traditional pole antenna. SureConnect won't work with retracting antennas. If you're lucky, you can use the contact plate to contact a windshield antenna internally. If you have a pole antenna you'll have to find another wiring route from the outside of the car to the interior again. With SureConnect, there is a coupling module where the satellite antenna is joined with the SureConnect cable and only the SureConnect cable is attached to the tuner. Weird, huh?
- 7 Install the vent or suction mount then attach the cradle to it.
- 8 Insert the tuner into the cradle and attach the antenna(s).
- 9 Connect the cigarette lighter power adapter and turn your car stereo and the radio on.
- 10 Find an unused band and set both the tuners to use that frequency.
- 11 Go on to the Internet, credit card in hand, and choose a plan and get activated. Make sure you have your radio ID handy.
- 12 Turn your car stereo on, have a beer and justify to yourself why losing half your weekend was worth saving the roughly \$80 dollar installation fee.

Well, satellite radios have a way to go to be a quick and easy install to be honest. The transmitter antenna is a bit of a kick in the pants but the FCC puts strong restrictions on the power of personal FM transmitters so it is necessary to ensure operation. The products are built to FCC regulations so it affects us here too. There are other options though. You can buy a cassette adapter which will give you a quality boost. If your car stereo has an auxiliary input you can use that too. Again, a boost in quality. That can also shave off a big chunk of work fishing that second cable. The people I know who have invested the time, money and effort to install a satellite radio refuse to go back to regular radio. They say the difference is night and day. Very tempting. I am especially looking forward to the mock take-over of Fox News' Buffalo studios by Texas Republicans brandishing toques and saying "eh" after every sentence. No, really.

By Andrew Carruthers



Sirius Stiletto 1

This One or That?

Keeping track of multiple versions of your files

If you work on more than one computer, you'll probably have more than one version of the same files. Unless you are completely fastidious in your file management, you'll eventually face two files and wonder: Which one has the latest edits? There's a second scenario that often plays out if you work as part of a team. The questions here are not only "which is the most up-to-date file?" but also "who has it?"

These are two faces of version control: synchronization and version tracking. For the user that's not part of a workgroup or not working on shared files, the solution usually lies in a product category called file synchronization software. As the name suggests, its purpose is to keep track of the several versions of a file that you may have at any given time.

Here's a common situation: you've worked on a project at work and at home over several days and use a USB thumb drive to shuttle the files between work and home. You therefore have three sets of files to keep track of. If it's a matter of just one or two files, we can usually keep track of that, but if it's a project that involves a number of files, the potential danger is that you will inadvertently open and work on an older file so the work you did on one of the other versions gets lost in the shuffle.

Let's now assume that the files you spent all day on at work are the most current ones. When you insert the USB thumb drive to copy the files to take home, there may be older versions

already there from the previous day. However, synchronization software will update all the files from the work computer to the thumb drive. Then when you get home and insert the thumb drive into your home computer, the sync software will update the appropriate files on the home computer, syncing from the thumb drive to the home computer. At this point, the files at work, on the thumb drive and on your home computer are in sync. If you work on the files for a few hours at home, the syncing process is reversed: home computer to thumb drive and then thumb drive to work computer.

There are a number of products available on the market, including freeware ones, and they share a similar core of features. To illustrate the basics, I'll use GoodSync 6.7 from Siber Systems (which also makes an excellent password keeper called RoboForm). GoodSync works on individual files as well as folders or directories. Suppose you've copied the contents of your My Documents folder onto an external hard drive. When you set up GoodSync to synchronize the two, it will keep track of the files you work on locally and keep track of which ones need to be updated on the remote drive. You have flexibility in determining how and when the synchronization takes place. You could have the software simply analyze the two versions and flag them for you to act upon, you could have it synchronize whenever the external hard drive is connected to the computer, or set up a

time-based automatic schedule.

If you use a PDA or smartphone, you may have already encountered a specialized form of synchronization software as it is included with most devices. Microsoft's ActiveSync and Palm's HotSync are the most common examples. They work primarily on the contacts, calendaring and task list portion of the devices, but third party developers have extended the functionality. For example DataViz has developed a productivity suite called Documents to Go software for Palm OS, which reads and creates files compatible with MS Word, Excel and PowerPoint, and part of that suite includes the ability to sync those documents between your Palm PDA or Palm OS-based smartphone and MS Office files on your computer. The latest version of D2G includes a mail syncing utility called RoadSync, which is based on the Microsoft Exchange ActiveSync protocol. Another example of extending functionality beyond what the device manufacturer provides is PocketMac, which provides syncing software products that work between Macs and Windows Mobile devices and Macs and BlackBerry devices.

Workgroup solutions

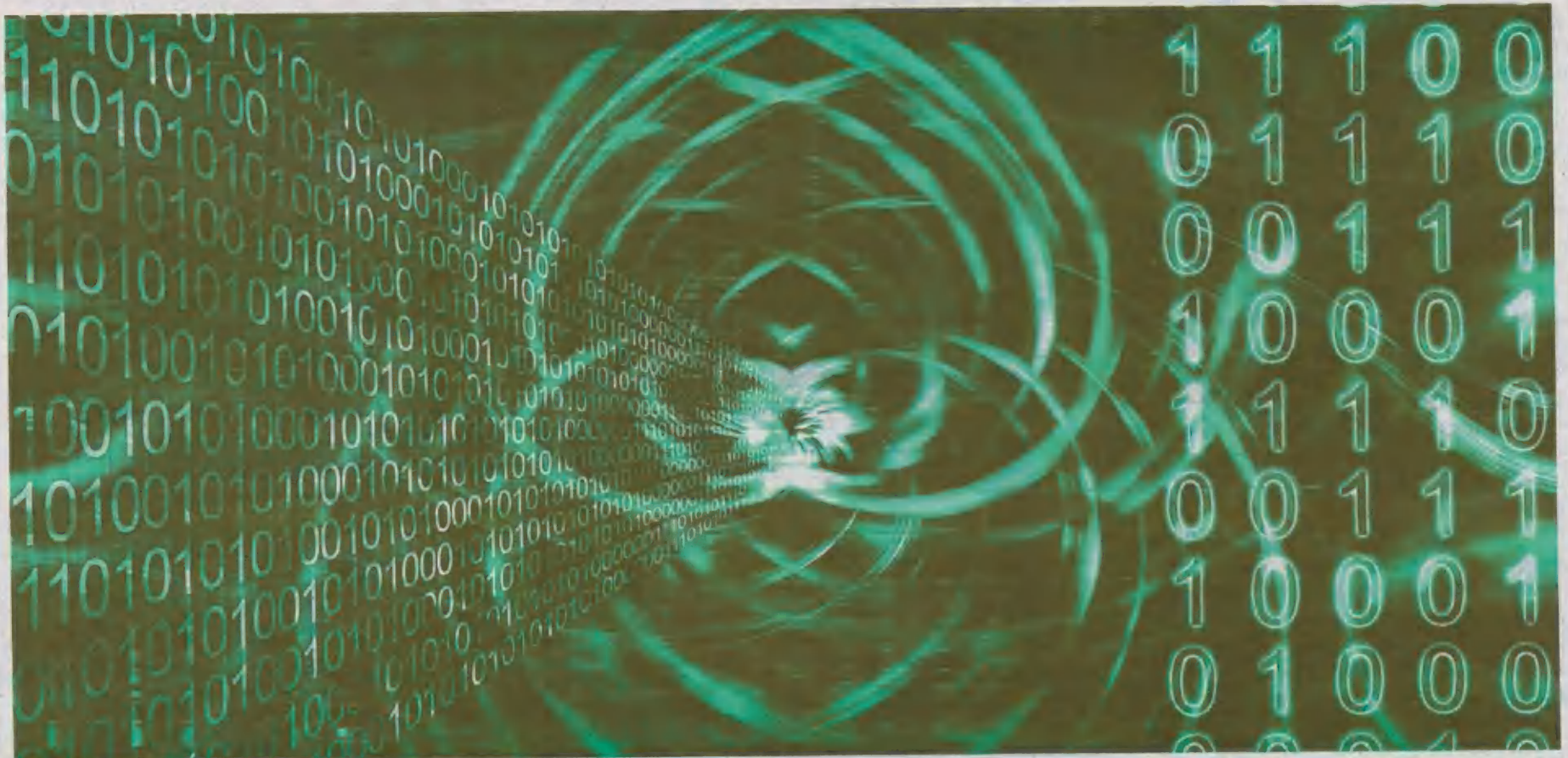
For people that collaborate on projects, the "which file?" problem is complicated because multiple users may be trying to access it at the same time. For files that reside on a central file server, file control is usually handled by some sort

of check-out, check-in system. If one user accesses a file, it is locked so that no one else can work on it until the person working on it checks it back in. In a complex workflow environment like publishing, people in different departments may need to access the same page at the same time, so check out systems can become quite sophisticated and zoned by departments. For example, an editor may lock the story portion of the page but the ad department could still have access to the portion of the page that contained the advertisement. As well, the article author might have read-only access to the story while the editor had it checked out, but could not revise it.

In its Creative Suite products Adobe has included a version-management application called, appropriately enough, Version Cue. While it is intended for workgroups, it can be used by individuals as well. For example, if you are a freelance designer or photographer working on a project for a client, you can keep track of the intermediate drafts you prepare by saving each change as a version.

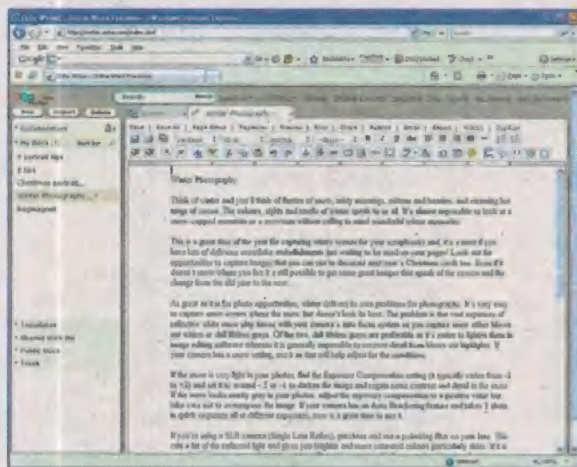
There are few things more frustrating than realizing you've been working an older version of a file for half the day. A little pre-planning to find the version control solution that works for you or you and your colleagues can save untold headaches.

By David Tanaka



Working On the Road

What to pack when taking your office with you



Zoho applications offer all the features of an office application accessible online via a web browser

There is nothing as frustrating as being on the road with a job that has to be done and minus the tools you need to do it. If you're about to hit the road with computer in hand, you want to make sure that you have everything you need and that it all works when you need it to. If you're traveling without a computer there are plenty of options that will allow you to still have access to the tools you need but without having to lug 10 pounds of computer gear around to do it. This month we'll look at some things that you need to do before you hit the road to make sure that you have computing power wherever you go.

Power to go

The battery in most laptops provides only a few hours of charge so remember to take the laptop's power cable with you and, if you're traveling internationally, the converters for the foreign power points. If you find yourself regularly lugging around power cables for multiple devices, consider investing in something like a Kensington Universal 120 watt AC/DC power adaptor. This power adaptor can charge multiple devices, although only one at a time, using different tips for each device. Purchase and test it well before you leave as you may need to order additional tips for some devices.

If work on the plane is on your agenda, check with the airlines what power supply will be available on your flight, if any. A good place to check onboard power options is SeatGuru.com. Provided you know your airline and aircraft type, you can check the availability and type of onboard power. Many international airlines offer AC power with universal connectors that will take a range of plug types, whereas others, like United, use Empower which is a different connector entirely—it comes bundled, for example, with the Kensington power block solution.

If you're switching from all socket to battery power, adjust your computer's power consumption options using the Control Panel > Power Options and set it to battery power to ensure reduced power consumption such as powering down the machine when it is not in use.

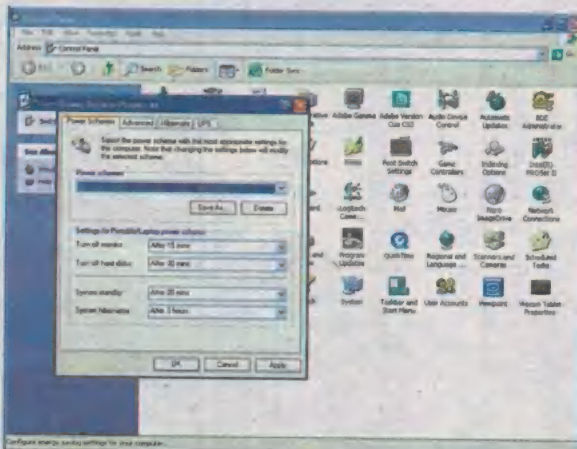
Email on the road

One of the gotchas with traveling is getting reliable email access, in particular if you use POP3 mail delivered via your ISP. While you may be able to receive incoming email on the road, you may encounter difficulty sending email when using a hotel's broadband or wireless connection. The problem is that your ISP's email sending server may block your attempt to send email using it when you aren't connected to the internet using their servers. They configure this as one means of preventing their servers from being used to deliver spam.

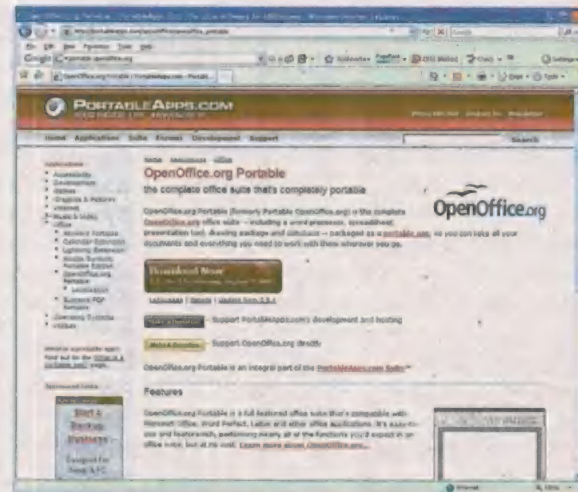
If this is the case, you will need to contact your ISP's support desk and ask them if there are any special configuration options that you should use. Often the solution is as simple as configuring secure sending using a log in and password. In many cases your ISP may offer multiple email options. So, in addition to being able to access your POP3 email using an application such as Outlook, Outlook Express or Eudora, you may be able to access it via a web interface using just a web browser. Using this interface you can not only check your email but also send it and this by passes problems you might encounter when attempting to send messages using an email program. Check with your ISP before you leave to see if web access is offered and use it, at least once, before you go so that you know how to log in and find your email. Another alternative is to make sure that you have a Web-based email account such as Hotmail that you can use in an emergency to send emails.

Password access

If you aren't taking a computer with you but you are planning to use other people's computers or those in an internet café you'll need to ensure you have your passwords with you. One handy application to take is Steganos Locknote. This single executable file can be used to store all your passwords. You simply run the program, type in the passwords and other details you need to keep secure into its notepad type interface and then close the program. Access to the program is controlled by a single password you type to open it, when opened, all your other passwords are unencrypted and automatically displayed. Configure Locknote with your data then copy the file onto a Flash



When you're operating on laptop battery power make sure to have power saving features enabled.



Tools like Portable OpenOffice.org can be carried with you, stored on a USB flash drive

Taking documents with you

A USB Flash drive is also a great tool to take with you to store important documents and other data that you need access to on the road. Small applications like Portable OpenOffice.org can be installed onto a Flash drive allowing you to take your office suite with you hanging from a keychain. In fact, OpenOffice.org is only the tip of the iceberg of portable applications which range from browsers to graphics editors. Check out this Wiki for more information: en.wikipedia.org/wiki/List_of_portable_software.

If you aren't taking a computer with you and you need access to office applications, you can use an online tool like those supplied by Zoho.com. Zoho provides a range of free online office applications that you use from your browser and which include Zoho Writer, Zoho Sheet and Zoho Show—together covering your word processing, spreadsheet and presentation needs. Documents you create are saved online and can be printed from the browser if you have access to a printer, or exported as PDF files and saved to a local drive.

Travel has a tendency to turn things that work perfectly well at home into spectacular disasters. Unless you travel so frequently that you have all the problems resolved, have a back up plan in place to deal with issues you may encounter like lost computers, poor internet connections, missing cables and email software that won't work. That way you'll be ready for anything and, chances are, computer disasters will by pass you as they head off to annoy the person who isn't so well prepared.

By Helen Bradley



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Consumer electronics,
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Power Pellets: Playing on the Cheap

Is subscription service gaming the smarter way to play?



Hang out with a group of gamers for any appreciable length of time and you'll eventually hear someone complain about the cost of the software that feeds their hobby. And, to be sure, games aren't cheap; most popular titles sold at retail cost four or five times the price of a night out at the movies.

Of course, the contrarian in the group is likely to point out that the prices we pay now are actually

comparable—perhaps even a steal, if you factor in inflation—to what yesteryear's gamers used to fork out. Even in the face of skyrocketing development costs, games haven't increased much in price over the last quarter century—a brand new cartridge for your Coleco Vision in 1982 cost \$40 or \$50, and most brand new games sold at retail today are in the \$50 to \$60 range.

To be sure, there are plenty of valid points to be raised on both sides of the debate. But the argument edges toward academic when you take a look at GameTap, an online, subscription-based service that provides unlimited access to a collection of nearly a thousand games for just \$60 a year, or the cost of a single boxed game.

The concept isn't entirely new. Cable movie channels provide us with all the Hollywood films we can watch for a flat monthly fee that's less than the price of a single theatre ticket. Likewise, subscription-based music services like Napster offer monthly access to libraries of more than a million songs for around the price of one album. But GameTap is a first for gaming.

Owned by Turner, a giant in the American broadcasting industry, this well-funded online venture has been around for more than two years, and offers several ways to play. The first method—a "green" membership, is free (by free I mean you just have to watch an ad prior to playing). Just download the GameTap player, set up a user ID, and you'll have immediate access to scores of games, ranging from recognizable oldies like Asteroids, Zaxxon, and Xevious to more modern titles like Psychonauts, Colin McRae Rally, and Tomb Raider: Legend.

Upgrade your membership to "gold" (this is where the 60 clams per annum comes in) and you'll get access to the whole kit and caboodle, including hundreds more classics like Street Fighter and Pac-Man and hundreds of additional contemporary titles like Shadowgrounds and Civilization IV. Plus, you'll gain privileges to play some of GameTap's most popular properties, like Sam & Max, a witty and innovative episodic series of adventures from Telltale Games starring a dog cop and his bunny sidekick, now in its second season.

It sounds like terrific deal, and it is, but there are a



few limitations. First off, you'll need a live Internet connection to play, which could prove bothersome for commuters hoping to get in a few levels of Dig Dug on their laptops on the train ride to work.

You'll also have to download games in their entirety before beginning to play them. This won't be much of an issue when downloading an old classic, like the 12MB Metal Slug, which took less than a minute for me to go from clicking download to actually playing, but my patience began to wear thin when it came to more modern games that are hundreds of megabytes in size, like Hitman 2. (Also keep in mind that downloading lots of large files may also cause your Internet bill to climb into the stratosphere, assuming your ISP has a download limit—and many do.)

Plus, the game selection, while seemingly huge on the surface, is noticeably finite. In the classics department I searched for and failed to find several popular oldies, including Double Dragon, Bionic Commando, and any of Nintendo's popular Mario or Legend of Zelda games. The latest, greatest shooters are also nowhere to be found; queries for popular franchises like Unreal, Battlefield, and Doom came up empty.

And, predictably, cross-border publishing rights issues keep Canadian gamers from seeing a few dozen games available on the American site—most notably, anything published by Sierra Online.

But while GameTap may be unable to secure rights to all of our favourite games, they've enhanced some of the ones they do have with new features, like two-player turn-based play and global leaderboards for classic arcade games. GameTap vice-president of content Ricardo Sanchez said in an interview with HUB: TCP that the company plans to roll out more "original and innovative" features in 2008, though he didn't say what they'd be.

The important thing is that you shouldn't go into GameTap thinking your \$60 membership will be all you spend on games each year; there'll always be something you want to play—perhaps an episode of Half-Life 2 or a MMORPG like World of Warcraft—that you'll simply never see on the service. Even GameTap tacitly acknowledges this by way of its editorial section, which offers features and videos about games that will likely never appear on their service.

Best advice: Just take GameTap for what it is: An effective way to cut back on your current game spending. After all, if the service's 1,000 game library includes even a couple of titles you were thinking about buying, a yearly subscription would be a boon to your bank account.

By Chad Sapieha

Lost: Via Domus (Ubisoft, \$49.99)

If you haven't been caught up in the fervour surrounding the mysterious television drama Lost, best steer clear of the new game based on the show, Lost: Via Domus. It's an unadulterated ode to its source material; a piece of interactive entertainment specifically and explicitly designed to appeal to fans of the television series that is so steeped in Lost lore that it will probably be downright befuddling for players unfamiliar with show.

On the flipside, that means Lost zealots ought to find plenty to like. Ubisoft's Montreal studio has done a splendid job of digitally recreating the enigmatic island on which the television show is set, not to mention its many castaways.

But it's the story, which places the player in the shoes of a heretofore-unseen survivor of Oceanic Air flight 815 experiencing his own strange adventure on the island, that really impresses. Not because it's particularly engaging or revealing, but rather because it manages the difficult feat of seamlessly integrating with the existing narrative, adding new mysteries to the Lost universe without conflicting with the unexplained events that Lost fans have already seen take place over the course of the first two seasons of the show.

Indeed, discovering how the developers merged the game world with that of the TV series is perhaps the most compelling part of the game; a breathless, heart pounding shooter Lost: Via Domus is not. Expect to solve plenty of puzzles, be chased by that inscrutable smoke monster, explore your own past via the show's trademark flashbacks, and do some platform-style running and jumping. Put another way, it's brimming with passable play for casual gamers who enjoy the show, but it's not exactly a hardcore player's dream.

By Chad Sapieha

Chad Sapieha is a Toronto-based journalist and frequent contributor to a variety of North American news, technology, and lifestyle publications.

Power Pellets is a monthly column that explores PC gaming products, services, trends, and issues, focusing, when appropriate, on Canadian consumer ramifications and industry connections.



Internet Service Provider Locator

Data courtesy CanadianISP.com. For head-to-head comparison and the most recent ISP information, visit www.CanadianISP.com.
While we strive to bring you the most accurate and up-to-date information, please contact ISPs to confirm details.

| ISP Name | Residential | Business | DSL | DSL | DSL | DSL | DSL | DSL | DSL | DSL | DSL | DSL | DSL | DSL | Website | Phone Number | Email Address |
|---------------------------------------|-------------|----------|---------|---------|---------|-----|---------|----------|-----|-----|-----|-----|-----|-----|---|--------------|--|
| 1stAccess Internet | X | X | \$24.95 | X | X | X | X | X | X | X | X | X | X | X | www.1staccess.ca | 877-779-9157 | sales@1staccess.ca |
| 3web | \$24.95 | \$4.95 | \$24.95 | X | X | X | X | X | X | X | X | X | X | X | www.Get3web.com | 866-438-8393 | sales@3web.com |
| Acanac inc. | X | \$9.95 | \$18.95 | \$26.95 | X | X | X | X | X | X | X | X | X | X | www.acanac.ca | 866-281-1353 | sales@acanac.com |
| Acanac inc. | X | \$9.95 | \$18.95 | \$26.95 | X | X | X | X | X | X | X | X | X | X | www.acanac.ca | 866-281-1353 | sales@acanac.com |
| Accelerated Connections | X | X | X | X | X | X | X | X | X | X | X | X | X | X | www.dsl4u.ca | 905-660-0878 | sales@acceleratedconnections.com |
| AEI Internet | X | \$4.95 | \$29.95 | \$39.95 | X | X | X | X | X | X | X | X | X | X | www.aei.ca | 877-305-5415 | info@aei.ca |
| All Canadian Dialup | X | \$0.01 | X | X | X | X | X | X | X | X | X | X | X | X | www.zeuter.com | 877-236-6342 | sales@zeuter.com |
| Altima.Net INTERNET | \$26.95 | \$9.95 | \$24.95 | \$29.95 | X | X | X | X | X | X | X | X | X | X | http://global.ca | 866-990-0614 | admin@altima.net |
| AOL Canada Inc. | X | \$24.95 | \$44.95 | X | X | X | X | X | X | X | X | X | X | X | http://aol.ca | 800-274-4279 | IMAdSales@aol.com |
| ASERTY Enhanced Internet Services | X | \$5.50 | \$33.95 | \$43.95 | X | X | X | X | X | X | X | X | X | X | www.aserty.com/ | 866-746-6651 | service@aserty.com |
| ASISNA | X | \$14.95 | X | X | X | X | X | X | X | X | X | X | X | X | www.asisna.com | 509-535-5116 | support@asisna.com |
| auracom/interhop | \$24.95 | \$11.95 | \$24.95 | X | X | X | X | X | X | X | X | X | X | X | www.auracom.net | 877-688-8812 | sales@auracom.com |
| AxcessNet | X | X | \$24.95 | \$34.95 | X | X | X | X | X | X | X | X | X | X | www.axcessnet.net/web/ | 514-630-0970 | info@axcessnet.net |
| B2B2C High Speed Internet | \$34.95 | \$8.95 | \$9.95 | \$18.90 | X | X | X | \$199.00 | X | X | X | X | X | X | www.b2b2c.ca/b2b2c_cisp | 800-965-5906 | sales@b2b2c.ca |
| BasicISP.net | X | \$6.95 | X | X | X | X | X | X | X | X | X | X | X | X | www.BasicISP.net | 800-456-6311 | Support@BasicISP.net |
| Bell Sympatico | X | \$11.95 | \$29.95 | X | X | X | X | X | X | X | X | X | X | X | http://bell.ca | 800-773-3212 | www.bell.ca |
| Broadband Ontario Incorporated | X | X | X | X | X | X | \$69.99 | \$49.95 | X | X | X | X | X | X | www.broadbandontario.com | 866-870-0076 | sales@broadbandontario.com |
| CAM Internet/CoopTel | X | \$8.95 | \$22.95 | X | X | X | X | X | X | X | X | X | X | X | www.cooptel.qc.ca | 866-532-2225 | info@cooptel.qc.ca |
| CanDSL | X | X | \$32.95 | X | X | X | X | X | X | X | X | X | X | X | www.simplysurf.net | 613-321-1787 | sales@simplysurf.net |
| Canquest Communications (Online) Inc. | X | \$10.00 | X | X | X | X | X | X | X | X | X | X | X | X | www.gocanquest.com | 519-351-1864 | sales@canquest.com |
| Centre Informatique Sirius - C.I.S. | X | \$15.95 | \$34.95 | X | X | X | X | X | X | X | X | X | X | X | www.siriusisp.com | 450-883-3777 | info@siriusisp.com |
| Citenet Telecom Inc. | \$29.95 | \$10.00 | \$25.95 | \$33.95 | X | X | X | X | X | X | X | X | X | X | www.citenet.net | 514-861-1505 | sales@citenet.net |
| Citenet Telecom Inc. | \$29.95 | \$10.00 | \$25.95 | \$33.95 | X | X | X | X | X | X | X | X | X | X | www.citenet.net | 514-861-1505 | sales@citenet.net |
| Club Plus Internet | X | \$7.95 | X | X | X | X | X | X | X | X | X | X | X | X | www.clubplus.net | 514-990-0675 | info@clubplus.net |
| Colba.Net | X | \$9.95 | \$28.95 | X | \$89.95 | X | X | X | X | X | X | X | X | X | www.colba.net | 514-856-6350 | ellen.chalyuk@colba.net |
| Colosseum Online Inc. | X | \$15.99 | \$28.85 | X | X | X | X | X | X | X | X | X | X | X | www.colosseum.com/ | 416-739-9787 | info@colosseum.com |
| Colosseum Online Inc. | X | \$15.99 | \$28.85 | X | X | X | X | X | X | X | X | X | X | X | www.colosseum.com/ | 416-739-9787 | info@colosseum.com |
| Compu-SOLVE Internet Services | X | \$9.95 | \$19.95 | X | X | X | X | \$89.95 | X | X | X | X | X | X | www.csolve.net | 877-567-7659 | sales@csolve.net |
| CompuXellence | X | \$12.50 | \$29.00 | \$39.00 | X | X | X | X | X | X | X | X | X | X | http://compuxellence.com | 514-849-9523 | info@compuxellence.com |
| CompuXellence | X | \$12.50 | \$29.00 | \$39.00 | X | X | X | X | X | X | X | X | X | X | http://compuxellence.com | 514-849-9523 | info@compuxellence.com |
| Copper.net | X | \$9.95 | X | X | X | X | X | X | X | X | X | X | X | X | http://sub.copper.net/promo/canadianisp.asp | 888-336-6331 | support@copper.net |
| Cybernet Communications Inc. | X | \$8.95 | \$27.95 | \$27.95 | X | X | X | X | X | X | X | X | X | X | www.ny cybernet.net/sp | 416-410-0218 | Toll Free 1-877-292-7638 |
| DialTrax | X | \$12.95 | X | X | \$19.95 | X | X | X | X | X | X | X | X | X | www.dialtrax.net | 434-836-6403 | sales@dialtrax.net |
| DialZone Communications | X | \$8.95 | \$34.95 | X | X | X | X | X | X | X | X | X | X | X | www.dialzone.ca | 819-920-0342 | sales@dialzone.ca |
| EFSnet | X | \$8.95 | \$29.95 | X | X | X | X | X | X | X | X | X | X | X | www.efsnet.ca | 877-465-5264 | info@efsnet.ca |
| Electronicbox | \$39.95 | X | \$34.95 | \$6.95 | X | X | X | X | X | X | X | X | X | X | www.electronicbox.net | 514-282-2693 | sales@electronicbox.net |
| Execulink | \$24.95 | \$17.95 | \$31.95 | \$10.00 | X | X | X | \$49.95 | X | X | X | X | X | X | www.execulink.com | 877-393-3285 | mailbox@execulink.com |
| Galaxy Broadband Communication Inc. | X | X | X | X | X | X | \$79.99 | X | X | X | X | X | X | X | www.galaxybroadband.ca | 905-827-7858 | sales@galaxybroadband.ca |
| GoSansFil.com | X | X | \$44.95 | \$54.95 | X | X | X | \$59.95 | X | X | X | X | X | X | http://gosansfil.com | 866-351-1887 | online@gosansfil.com |
| GPS Quebec Inc. | X | \$7.95 | X | X | X | X | X | X | X | X | X | X | X | X | www.cyberjungle.ca | 418-666-6024 | ventes@cyberjungle.ca |
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| HotDealsCanada | X | \$6.25 | X | X | X | X | X | X | X | X | X | X | X | X | www.hdcanada.com | 866-799-9609 | info@hdcanada.com |
| HotInc.com | X | \$14.95 | X | X | X | X | X | X | X | X | X | X | X | X | www.hotinc.com | 281-642-2402 | info@hotinc.com |
| Information Gateway Services | X | \$10.95 | \$34.95 | X | \$10.95 | X | X | X | X | X | X | X | X | X | www.igs.net | 800-268-8371 | sales@igs.net |
| Inter.net Canada | X | \$7.95 | \$29.95 | X | X | X | X | X | X | X | X | X | X | X | www.ca.inter.net | 514-481-1258 | sales@ca.inter.net |
| Internet Light and Power Inc. (ILAP) | X | X | \$44.95 | X | X | X | X | X | X | X | X | X | X | X | www.ilap.com | 416-250-0560 | sales@ilap.com |
| Intrajump Communications | X | X | \$34.00 | X | X | X | X | X | X | X | X | X | X | X | www.intrajumpinc.com | 514-312-2410 | sales@intrajumpinc.com |
| KEYNETZ | X | \$15.00 | \$29.95 | \$29.95 | X | X | X | X | X | X | X | X | X | X | www.keynetz.com | 613-829-9953 | keynetz@keynetz.com |
| LARA Internet Service Provider | X | \$6.95 | \$25.95 | \$35.95 | X | X | X | X | X | X | X | X | X | X | www.lara.on.ca | 905-631-1657 | sales@lara.on.ca |

Internet Service Provider Locator

Data courtesy CanadianISP.com. For head-to-head comparison and the most recent ISP information, visit www.CanadianISP.com.
While we strive to bring you the most accurate and up-to-date information, please contact ISPs to confirm details.

| Company Name | Year | Mail | Dial | Long Dist. | Local | Port Forward | Reseller | Advertiser | Search | Web Page | Active Server | E-mail | Web | URL | Phone/Fax | E-mail |
|---------------------------|---------|---------|---------|------------|----------|--------------|----------|------------|--------|----------|---------------|--------|-----|--------------------------|--------------|----------------------------|
| Le Cybernaute | X | \$9.95 | \$24.95 | X | X | X | X | X | ✓ | ✓ | ✓ | X | X | www.cybernaute.com | 418-543-3955 | ventes@cybernaute.com |
| LOGIX | X | \$16.95 | \$24.95 | \$39.95 | \$21.95 | X | X | X | ✓ | X | ✓ | X | ✓ | www.logix.ca | 877-564-4492 | sales@logix.ca |
| Look Communications | X | \$10.00 | \$37.00 | X | X | X | X | \$19.95 | ✓ | ✓ | X | ✓ | X | www.look.ca | 800-356-6566 | mboudreau@team.look.ca |
| Lynx Communications | X | \$10.00 | \$34.50 | X | \$30.00 | X | X | X | X | ✓ | X | ✓ | X | www.lynx.net | 604-638-8181 | info@lynx.net |
| M2DataTel Inc. | X | \$9.99 | \$27.90 | X | X | X | X | X | ✓ | X | ✓ | ✓ | X | http://m2datatel.com | 519-894-4212 | sales@m2datatel.com |
| Magma Communications | X | \$10.75 | \$31.95 | X | X | X | X | X | ✓ | ✓ | ✓ | ✓ | X | www.magma.ca | 800-576-6770 | sales@magma.ca |
| MCI Canada | X | X | X | X | X | X | X | X | X | X | X | X | X | www.weknowip.ca/ | 800-463-3812 | webhosting@ca.mci.com |
| MegaQuebec Internet | X | \$4.95 | \$29.95 | \$34.95 | X | X | X | X | ✓ | ✓ | ✓ | ✓ | X | www.megaquebec.net | 418-821-1002 | service@megaquebec.net |
| MegaQuebec Internet | X | \$4.95 | \$29.95 | \$34.95 | X | X | X | X | ✓ | ✓ | ✓ | ✓ | X | www.megaquebec.net | 418-821-1002 | service@megaquebec.net |
| Montreal DSL | X | \$16.99 | \$29.95 | \$37.20 | X | X | X | X | ✓ | ✓ | ✓ | ✓ | X | www.montreal-dsl.com | 877-685-5237 | sales@montreal-dsl.com |
| Muskoka Online | \$44.95 | \$10.99 | \$39.99 | X | X | X | X | X | ✓ | ✓ | X | X | X | www.muskokaonline.com | 705-788-8787 | sales@surennet.net |
| Mustang technologies inc. | X | \$10.00 | \$29.95 | X | X | X | X | X | ✓ | ✓ | ✓ | ✓ | X | www.mustangtechno.com | 800-353-3664 | info@mustangtechno.com |
| MyCanadaOnline.Ca | X | \$10.99 | X | X | X | X | X | X | ✓ | ✓ | X | X | X | http://mycanadaonline.ca | 888-505-5542 | admin@mycanadaonline.ca |
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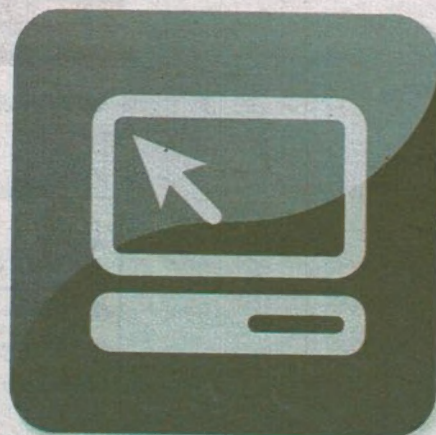
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The Last Byte

When will it end? The megapixel race ain't over yet



The other day I came across a couple of product catalogues from a large Canadian photo retailer. I'd tucked them away in a closet. One was from 1999, the other from 2003. In 1999 the digital SLR was still at an early stage of development. Kodak was a big name, offering hybrid models like the DCS 560 based on a Canon film body and the DCS 620 that used Nikon underpinnings. Canon had its fabulous two megapixel EOS D2000 and tantalizing morsels of a "mystery" Nikon were also published. No prices were listed for these—but you could lease the D2000 for \$700 a month for three years. A 1.4 megapixel Fuji S-565, based on Nikon mechanicals listed at \$11,400. Point and shoot cameras of the day topped out at around two megapixels and had \$1,500 price tags.

Things changed dramatically by the 2003 catalogue. Here you could see the direct antecedents of today's enthusiast models: the Canon EOS 10D, Fujifilm S2 Pro, Nikon D100, Pentax iST D and Olympus E-1. These 2003 vintage cameras are six megapixel models (except the five megapixel E-1). The Nikon and Canon listed for a bit over two grand; the Fuji and Pentax were around \$2,500 (the Pentax included a lens) and E-1 around \$2,800. Roughly a tripling in resolution at one fifth the price compared to 1999—not bad progress.

In late January the photo industry held its annual event called the Photo Marketing Association show in Las Vegas. It wasn't the definitive product launch venue since many companies announced new products in the months leading up to it and others delayed announcements until after the show. Nevertheless, for 2008 we have a fresh model lineup from every SLR maker except Fujifilm. Moreover three new players—Panasonic, Samsung and Sony—are in the game today. Every manufacturer's enthusiast model is now under \$2,000 and in some cases, under \$1,500. Resolution ranges from 10 megapixels to 14 megapixels. The resolution and pricing deltas aren't nearly as steep since 2003 as they were going from 1999 to 2003, but they are nonetheless significant.

It seems like a win-win situation for photographers. Increasing resolution (and better electronics) and decreasing prices. But is there a limit when is enough enough? It's a curious question and one that is often aired in photography forums. If we take a stance rooted in personal computer evolution and Moore's Law, the answer is "not for a while yet." How many times has some pundit said "No computer user needs more than..." only to be proven wrong. One of the happy relationships in digital technology advancement is the negative correlation between capacity and cost. Five years ago who'd a thunk you would need, want or be able to afford a desktop computer with four or eight processing cores? That kind of power is relatively affordable today. When memory cost \$100 per kilobyte, it seemed inconceivable that anyone would need, let alone be able to afford a gigabyte's worth. Yet today you find 1GB USB keys in a bowl at the checkout counter for \$10.

I've seen it written by more than one photography pundit that with a six megapixel SLR you should be able to make a print as big as a tabloid desktop inkjet printer will allow, which is 11 x 17 inches or in some cases SuperB or 13x19 inches. If you can't it ain't the camera, baby. I don't entirely disagree with that—I've made tabloid size prints from a four megapixel camera that I've been quite happy with. However, when I move to one of the latest 10 megapixel models, it is just so much easier to get there.

While camera development is often pegged to obvious changes like higher resolution sensors, the cameras themselves are undergoing gigantic leaps in performance with each generation, not unlike computers. This isn't just gadget glitter—the changes are very significant to photographers since cameras are now largely electronic and faster data communication and processing means a more responsive instrument.

*Until next time,
David Tanaka*

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